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Address

THE PROBLEMS OF SANITATION.*

EDWIN O. JORDAN, PH.D.
Professor of Bacteriology, University of Chicago.
CHICAGO.

Twenty-five years ago Mr. Frederic Harrison, writing of the nineteenth century, gave us this picture of London, the largest city of the modern world, and, indeed, of all time.

> To bury Middlesex and Surrey under miles of flimsy houses, crowd into them millions and millions of over-worked, underfed, half-taught, and often squalid men and women, to turn the silver Thames into the biggest sewer recorded in history; to leave us all to drink the sewerage water, to breathe the carbonized air, to be closed up in a labyrinth of dull, sooty, unwholesome streets; to leave hundreds and thousands confined there, with gin, and bad air, and hard work, and low wages, breeding contagious diseases, and sinking into despair of soul and feebler conditions of body; and then to sing pæans and shout, because the ground shakes and the air is shrill with the roar of infinite engines and machines, because the blank streets are lit up with garish gas-lamps, and more garish electric lamps, and the postoffice carries billions of letters, and the railways every day carry 100,000 persons in and out of the huge factory we call the greatest metropolis of the civilized world—this is surely not the last word in civilization.

We need not pause now to inquire whether this characterization of the London of the nineteenth century was correct, or, admitting that it was, whether it is now true of London or any other city, whether the human race at the beginning of the twentieth century is still dazzled and bewildered by its sudden material acquisitions, whether we are even now rushing violently down a steep place into the sea, I would simply ask you to remark the large part that faults and defects of sanitation play in Mr. Harrison's eloquent indictment. Some of the hardest things said about the nineteenth century by its critics refer to the neglect of public hygiene. Again and again the luxury of a few and the comfort of more are contrasted with the unhygienic conditions under which many others are forced to live and work. Unhygienic conditions in themselves are nothing new. In medieval London, and indeed throughout Europe, the dwelling places and mode of living of the majority of the citizens were far more unwholesome, far more conducive to the spread of infectious disease than in the London of 1882 or 1907. Mr. Harrison himself in another connection thus pictures the life of the Middle Ages:

> The old Greek and Roman religion of external cleanness was turned into a sin. The outward and visible sign of sanctity now was to be unclean. No one was clean, but the devout Christian was unutterably foul. The tone of the Middle Ages in the matter of dirt was a form of mental disease. Cooped up in castles and walled cities, with narrow courts and sunless alleys, they would pass day and night in the same clothes, within the same airless, gloomy, windowless, and pestiferous chambers; they would go to bed without night clothes and sleep under uncleansed sheepskins and frieze rugs; they would wear the same leather, fur and woolen garments for a lifetime, and even for successive generations; they ate their meals without forks, and covered up the orts with rushes; they flung their refuse out of the window into the street or piled it up in the backyard; the streets were narrow, unpaved, crooked lanes through which, under the very palace turrets, men and beasts tramped knee-deep in noisome mire. This was at intervals varied with fetid rivulets and open cesspools; every church was crammed with rotting corpses and surrounded with graveyards, sodden with cadaveric liquids, and strewn with disinterred bones. Round these charnel houses and pestiferous churches were piled old decaying wooden houses, their sole air being these deadly exhalations, and their sole water supply being these polluted streams or wells dug in this reeking soil. Even in the palaces and castles of the rich the same bestial habits prevailed. Prisoners rotted in noisome dungeons under the banqueting hall; corpses were buried under the floor of the private chapel; scores of soldiers and attendants slept in gangs for months together in the same hall or guardroom, where they ate and drank, played and fought.

At all events the city slum is not a modern institution. The main difference between the medieval and the modern attitude towards unhygienic conditions lies in our having now become awake to the sources of disease and death and to the knowledge that much disease is preventable. The public conscience to-day winces and rebels at the sight of evils once regarded with indifference or helplessness. So long as mankind supposed that in the language of Cruden's "Concordance," "diseases and death are the consequences and effects of sin," so long did a bewildered resignation accompany the mysterious visitations of Providence. For many this was radically and permanently changed when the germ-theory gave to the human race for the first time in its history a rational theory of disease susceptible of experimental verification. When that fact was established that much disease could be prevented, an enduring foundation was laid for works of sanitation.

The campaign against disease can be carried on in various ways. Individual cases of disease can be nursed with all the care that experience has shown to conduce to recovery, suitable drugs may be administered, surgical interference resorted to, individual peculiarities studied and taken advantage of; in fact, all the resources of modern medicine focused on the state of disturbance or abnormality in the individual patient. Such treatment has saved in the past, and will save in the future, many lives dear to friends and family and of incalculable value to country and race.

As a mass-method of attacking disease, however, it is distinctly palliative and not remedial. There is no man in his right mind who would not rather avoid disease altogether than be healed of a malady even by the

*Lecture delivered before the Harvey Society, New York, Oct. 26, 1907.

most skilful physician. For many and evident reasons prevention must in the long run take precedence over cure.

Preventive measures fall conveniently into two classes —those dealing with the physical well-being and resistance of the individual, such as diet, muscular exercise, sleep, fatigue, the use of stimulants and narcotics, and the general efficiency of the bodily functions, and, secondly, those having special reference to environmental conditions or affecting many persons or communities. The methods that the individual may adopt to ward off disease and enhance resistance lie within the scope of personal hygiene, those that involve larger or smaller groups of individuals, constitute the province of public hygiene or sanitation.

THE ROLE OF PERSONAL HYGIENE.

The methods for the furtherance of personal hygiene must be largely educative in character, and it must be recognized that the progress possible in this direction is distinctly limited by inherited constitutional factors. The prevention of disease and premature death is in many cases impossible even if the strictest and most efficacious regimen be maintained and if the hostile action of outside agencies be successfully avoided. In other words, some organisms carry within themselves the seeds of decay which germinate early and come to fruition in spite of all individual endeavors. A congenitally feeble or defective mechanism may be strengthened, but can not be remade. In most instances, however, measures of personal hygiene avail powerfully in promoting normal life and happiness and in some degree in preventing premature death. I need only mention the high resistance to many infectious diseases possessed by the well-nourished, properly exercised, undrugged individual. Improvement in personal hygiene must depend to a great extent on education, must necessarily be slow, and its success in preventing disease be conditioned in large part by the inherited constitution.

PUBLIC HYGIENE.

Any distinction between personal hygiene and public hygiene can not in the nature of things be an absolute one. The stream can not rise higher than its source, the welfare of the group is determined by that of the individuals composing it. More and more, too, the concerns of personal hygiene are tending to become problems of public hygiene. Bodily cleanliness is essentially a personal matter; it would be an absurdity in the present state of public opinion to legislate for compulsory bathing, and yet the establishment of free public baths is everywhere recognized as an important measure of public sanitation. The same thing applies to exercise and the establishment of municipal playgrounds and gymnasia. The principle is perfectly sound. Primarily the function of public hygiene is both to avert from the community as a whole the consequences of misdoing, neglect or ignorance on the part of any one, or any number, of its members, and to provide for groups of individuals, conditions as favorable for health and happiness as the most intelligent and far-seeing could demand for themselves. Such conditions may not always be those that the least intelligent or most greedy members of the community desire, but from the point of view of public hygiene they are none the less inevitable.

Up to the present, measures of sanitation have affected chiefly the infectious diseases. This is shown, for example, by the list of the ten leading causes of death in Massachusetts in 1856 and in 1904 (Table 1).

TABLE 1.—THE TEN LEADING REPORTED CAUSES OF DEATH IN MASSACHUSETTS IN ORDER OF FREQUENCY.

1856.	1904.
Consumption.	Heart Disease.
Scarlet Fever.	Consumption.
Brain Disease.	Pneumonia.
Old Age.	Diseases of Brain and Cord.
Pneumonia.	Diseases of Kidneys.
Typhoid Fever.	Cancer.
Dysentery.	Cholera Infantum.
Heart Disease.	Accidents.
Cholera Infantum.	Bronchitis.
Diphtheria and Croup.	Diarrhea and Cholera Morbus.

In 1904 typhoid fever had dropped to thirteenth, dysentery to seventeenth and scarlet fever to twenty-first place.

It is here seen that the diseases that have been displaced are largely the infectious diseases. It is not possible in all cases to determine the factors that have been operative in the decline, and in some cases causes beyond our control have perhaps been at work, but undoubtedly measures of quarantine, isolation, school hygiene and other protective devices adopted by the community have played a part in the shrinking of once prevalent infections. In some instances the effect of methods of sanitation is not to be mistaken. One of the most remarkable, as indeed one of the best understood examples of the efficacy of sanitary features, is afforded in the influence of improved public water supply on typhoid fever.

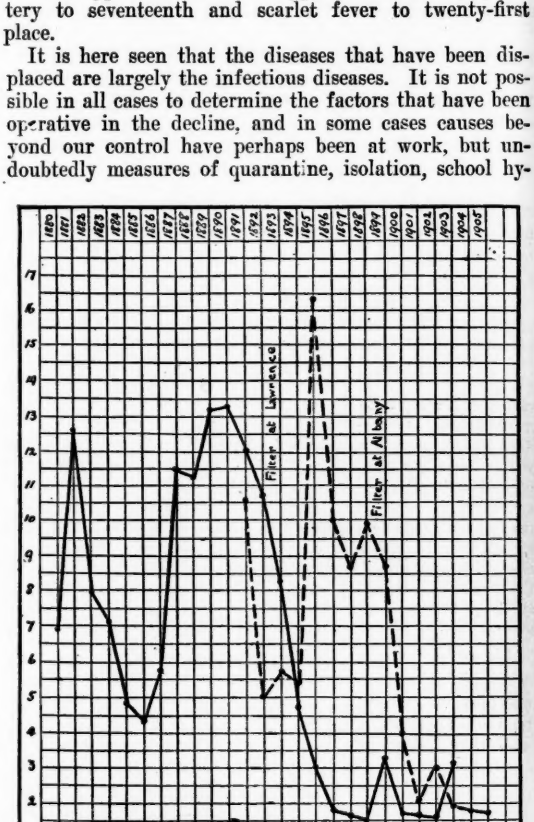

Chart 1.—Typhoid death rates in Albany, N. Y., and Lawrence, Mass., before and after installation of filters.

The improvement that has followed the substitution of a pure water supply for a polluted one in cities like Lawrence and Albany is unmistakable.

It is not my purpose, however, to rehearse the triumphs of sanitation. There is much to be accomplished before we can legitimately give ourselves the gratification of dwelling on past achievements. It seems to me desirable to keep before our minds the present outlook

for applying scientific knowledge to the prevention of disease rather than the historical development of, or even the recent advances in, sanitation. In many directions it is evident that we need further information before we can plan an intelligent campaign. As regards typhoid fever, for example, it is true that even after a pure public water supply has been secured the typhoid death rate remains excessively high in most American cities as compared with European cities somewhat similarly conditioned.

The relative proportions of this residual typhoid derived from direct contact, from milk, oysters and other articles of food, from the agency of flies, from shallow wells[1] and other sources are not known. Owing to the great prevalence of typhoid fever in this country, cases contracted outside pure-water districts are probably imported into them more frequently here than abroad. Typhoid bacillus carriers, like the cook discovered by Soper,[2] who was responsible for 32 cases of typhoid fever in seven families, are also, for the same reason, probably more numerous here than in Germany, but we have no precise information on these points.

INFANT MORTALITY.

Again, how much do we really know about the best methods of preventing summer mortality among infants

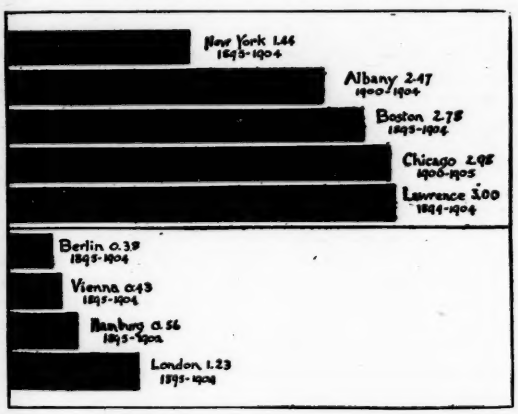

Chart 2.—Typhoid death rates in American and European cities, Albany, Lawrence and Hamburg, after installation of filters; Chicago, after opening of the sanitary drainage canal. The remarkable case of the City of Washington, D. C., is purposely left out. There the installation of a modern sand filtration plant (November, 1905), was followed in the next year (1906) by a higher typhoid death rate (4.93) than had been recorded for either of the three preceding years (1903, 4.50; 1904, 4.38; 1905, 4.39).

in large cities? We have accumulated a considerable body of data about infant feeding, the advantages of fresh air and pure milk, but do we yet know to what extent our initial preventive measures have affected infant mortality or is there general agreement as to what the next step should be? Is there any likelihood that either "certified milk" or "pasteurized milk" will prove the final solution? Do we know in what proportion of cases domestic infection is the cause of infant diarrhea, and whether such domestic infection in the tenement-house districts can be prevented in any other way than by the slow and wasteful process of individual education? Is there adequate provision for a statistical basis for determining the effect of such preventive measures as may be instituted? It is well known to statisticians that, unless the number of births is ascertained, deductions as to infant mortality can not be well founded. In this country the record of births is in most places so defective that I may be pardoned perhaps for illustrating the errors into which we may fall in estimating infant mortality without knowledge of this factor.

TABLE 2.—INFANT MORTALITY.

Pop'n of about 150,000.	Deaths under 1 year.	Infant deaths per 10,000 population.	Total deaths.	Per cent. inf. d'ths of total deaths.	Births.	Inf. deaths per 100 b'ths; true inf. death rate.
Town A....	650	43.3	2181	29.8	4555	14.2
Town B....	498	33.2	3780	13.2	2879	17.2

In some cases, therefore, we are compelled to ask ourselves whether an apparent decline in infant mortality is due simply to a decline in birth rate or to a genuine amelioration in sanitary conditions. Since seasonal fluctuations and variations render short-time statistics of little value, it is evident that the answer to the question can hardly be an immediate one.

In England, it is stated, the infant mortality has not materially decreased during the last 25 years, although the general death rate has fallen considerably.[3] Newman, in his recent book on Infant Mortality, regards it as demonstrated that the infant mortality rate is not declining, and bases far-reaching conclusions on this assumption. Germany, however, shows a steadily lowering mortality rate since 1885, the quinquennial averages for the large towns showing successive diminution.[4] In the United States the available data are very meager owing to the incomplete record of births. According to the records, however, the infant mortality in Boston and New York has steadily fallen by quinquennial periods since 1886.

TABLE 3.—DEATHS OF CHILDREN UNDER 1 YEAR PER 1,000 LIVING BIRTHS. AVERAGE OF 5 YEAR PERIODS.

England and Wales. 1885-1904.	Large towns in Germany. (Over 15,000 pop.) 1885-1904.	Boston. 1886-1905.	New York. 1886-1905.
142	244	181	288
148	231	170	218
158	220	151	185
142	208	141	158

PUBLIC HYGIENE A SOCIAL QUESTION.

At the present time the scope of public hygiene is widening. It is becoming more plainly seen that the public health is intimately and unavoidably connected with a thousand phases of the social order. To strike at the roots of disease it is often necessary to get under the surface of modern life and acquaint ourselves with deep-seated human instincts. The mere formulation of the problem is, however, something, and will serve to arouse the interest of different groups of individuals whose cooperation is essential to success. That in this country we are entering on this initial phase, which must be largely educational and exploratory, is shown by the number of strong national societies that have been formed to study and advise concerning special problems, such as tuberculosis, school hygiene, the alcohol problem, the venereal diseases, and the stunting and disastrous effects of excessive child labor.

It is surely no small matter that we have come to the point where considerable groups of influential men and women are willing to undertake the task of making plain to the general public the momentous character of

1. In 1899 from 3,500 to 4,000 such wells were in use in the city of St. Louis.
2. THE JOURNAL A. M. A., June 16, 1907, 2019.
3. Report of the Committee on Physical Deterioration.
4. Rahts, med. stat. Mitt. a. d. k. Ges., 1906, x, p. 79.

these questions. A concerted and persistent campaign of education backed by scientific investigation is likely to have greater weight in molding public opinion than the isolated appeals of reformers and philanthropists, however timely and well directed. The great measure of success already achieved by the crusade against tuberculosis at least serves to encourage this belief.

It is evident, I think, that with the increasing complexity of the social structure, the field of public hygiene will continue for some time to broaden. Many matters affecting the physical well-being of society which are now overlooked, ignored or regarded as a necessary part of keeping the pace, will come to be seen in their true light. I do not refer now to the improvement of the human race by selection and controlled mating, although the physical possibility of strengthening the human mechanism must be recognized and may one day be a subject for state interference, but to measures more susceptible of immediate application. We are still treating, for example, in an amateurish, desultory fashion such important questions as the influence of city dust and smoke on the respiratory tract, the effect on the nervous system of the pounding it receives from city noises and the consequences of racial mingling and amalgamation. The waste of life and the maiming of bodies by violence, which has reached so gruesome a pass, especially in this country, is distinctly a preventable evil calling for preventive measures.

TABLE 4.—AVERAGE ANNUAL DEATH RATE PER 100,000 POPULATION.

City.	Period.	Homicide.	Suicide.	Accident.	Total.
London	1903-4	1.1	11.2	54.2	66.5
Berlin	1900-5	0.96	29.1	59.4	89.5
New York....	1900-5	4.2	22.3	108.	134.5
Chicago	1900-5	6.7	22.9	76.2	105.8
Boston	1900-4	3.5	13.7	84.9	102.1

INDUSTRIAL HYGIENE.

The time is now ripe for a fuller consideration of the interest that the whole community has in dangerous trades and hazardous occupations. The extent to which industrial injuries can be prevented by slight changes in materials and machinery is hardly realized by the general public. Strong arguments can be brought to bear in favor of industrial insurance against death and disability from accident, in favor of charging up to an industry the depreciation in men as is the custom with the depreciation in buildings and in machinery. The extra cost of a hazardous industry ought, as a business procedure, to be laid on that industry, and manufacturers will unquestionably find the public willing to assent to this view.

There are still stronger arguments, economic as well as humanitarian, for preventing or minimizing injury and disease in dangerous trades and occupations. It needs no dissertation to prove that it is less expensive as well as more humane for the community to take measures to safeguard machinery rather than to allow accidents to happen and pay the cost, whether legitimately in the form of industrial insurance or, as now, in the support of hospitals and poorhouses and in diminished industrial efficiency. The factory inspector of the state of Illinois in a plea for better protection before the state legislature last winter brought out the facts that:

It costs 35 cents to take out the raised set screw, bore a hole into the line shaft and set in the sunken set screw. And yet we had in Illinois almost 100 deaths last year in factories from the raised set screw. We know that it costs $15 to guard a woodshaper. The average life of the machine is ten years, and woodworkers will tell you their average loss is a hand for each machine every year.

In the same connection it was shown that Illinois, the third greatest industrial state in the Union, has no law protecting workers in factories, in workshops or in the building trades. At this session a bill was passed for the protection of structural iron workers on bridges and buildings,[5] but similar bills for the protection of other occupations were defeated. There is in Illinois no law providing for ventilation in shops or safeguarding machinery, hatchways and elevator shafts. Here is a pretty definite opening for preventive and protective measures which are reasonably certain to save life, prevent disabling injuries and diseases and promote the efficiency and well-being of the body politic.

THE "POISON WORKERS."

The same thing is true of the trades and manufacturers involving more or less direct contact with poisonous substances, like mercury, lead, arsenic and phosphorus. Such dangerous industries are controlled in most European countries by elaborate regulations designed to protect the workmen against the peculiar dangers to which they are exposed. Twenty-four such industries for which special rules are in force are enumerated in England and fifteen in Germany. In the United States legal protection is almost lacking, although a great improvement in conditions has been accomplished through the voluntary action of some philanthropic and far-seeing manufacturers. In certain industries, notably those involving work with lead and phosphorus, the preventive and protective influence of simple hygienic measures is so marked that the duty of society to itself would seem to require that such measures be made obligatory. Investigation of the whole question of occupational diseases under American conditions is much needed.

EDUCATION IN PUBLIC HYGIENE.

If we grant that the collective health and physical soundness of a nation or people are at least as worthy of public concern as the conservation of other national resources, then the road is clear before us. In the present apathetic state of public opinion, as attested not only by the imperfect legal crystallization of our knowledge, but by the inadequate material and moral support given by most American communities to public health officials, one of the first steps must be educational. The clamor of modern life does not make it an easy task to shape intelligent public opinion. Many voices are crying aloud in the market place insistently and with great fervor. And yet there are indications that the preliminary work of education in public hygiene is taking effect.

The influence attained and the work already accomplished by the national societies before referred to, and especially the wide interest evoked by the Committee of One Hundred of the American Association for the Advancement of Science, to consider methods of establishing a national department or bureau of health, are signs not to be mistaken. The rapid growth of the Public Health Defense League, organized to combat all forms of quackery, charlatanism and fraud, is another instance of increasing public interest. Especially timely is the action of the American Medical Association in recommending the establishment of a Board of Public Instruction empowered to disseminate through the medium of the public press and in other channels authoritative information regarding the causes and pre-

5. Last year in the City of Chicago, out of a total membership of 1,358 in the Bridge and Structural Iron Workers' Union, 156 either lost their lives or were totally or partially disabled.

vention of disease. In the significant language of the report of the committee on the establishment of such a board,[6] the reading public would then come to understand "that the chief aim of the medical profession is to prevent rather than cure disease." The awakening of interest must be accompanied by and is, indeed, in large part conditioned by the investigation of public health problems. As already pointed out, our knowledge of the causation and prevention of disease is in many directions far too imperfect to enable us to formulate a rational program. We can not go to the public, except with a well-considered plan of action based on irrefragable scientific data. The outlook for advance in sanitation depends, then, on several factors: More intensive investigation of the causes of disease, especially viewing disease as a folk phenomenon, affecting large bodies of people; the effective marshalling of existing knowledge and the exposition of its bearing on the collective physical welfare; the crystallization in legal form of well-established principles and information in order to prevent as far as possible injury to some through the avarice, ignorance or neglect of others; and, finally, the realization by the general public of the fact that the public health service is second to none in its economic value to the community. What would be thought of the individual experimenter who conducted experiments unsystematically and without reference to their significance, who employed untrained and poorly paid assistants, who neglected to keep a record of his experiments and observations, who paid little or no attention to the similar experiments of others and omitted to interpret his results? This is the sort of experimenting modern society carries on in matters of life and death.

THE PLACE OF THE MEDICAL PROFESSION.

Where is the place of the medical profession? What part ought it to take in forwarding the aims of sanitation? Selfishly, the interest of individual physicians is hardly promoted by a diminution in the amount of disease.[7] To the eternal honor of the body of medical practitioners be it said that this view has never been entertained; that, on the contrary, physicians have been foremost in the work of preventing disease, of drying it up at the fountain head.

Some of you may remember in the antivivisection literature the grotesque libel on Pasteur, one of the gentlest and most humane men that ever lived, to the effect that he used to capture stray dogs, carry them to his laboratory, inoculate them with rabic virus and turn them loose again in the streets of Paris in order to swell his revenues by providing a supply of patients. What sound-minded, educated person does not recognize in the stupidly extravagant falsity of such a statement an utter perversion of the attitude of the whole medical profession toward the causation and prevention of disease? So far from diabolically trying to increase opportunities for medical practice, the constant effort of physicians as a whole has long been directed toward detecting threatened or incipient disease and checking or cutting it off at its source, thus undermining their own livelihood.

But is this all? While the first concern of practical medicine must long continue to be for the individual, are not the conditions of modern life forcing new responsibilities on the medical profession? There are signs that the community is ready to welcome a fuller participation in the work of sanitation. I remember some years ago expressing my interest in the problems of water purification to a distinguished medical friend. I was met by the remark, "O, why not leave all that to the engineers?" One difficulty in the existing situation is that too much has been left to the engineers, that the working out of many problems of sanitation has fallen into the hands of men without a comprehensive understanding of the problems of disease and disease prevention. I would not be thought to underestimate in any way the splendid achievements of engineers and especially American engineers in the field of sanitation when I express my belief that the promotion of the public health is primarily a medical, not an engineering, undertaking.

TEACHING HYGIENE IN MEDICAL COLLEGES.

And this brings up the question whether a somewhat radical adjustment in the work of the medical schools will not soon be warranted, if not indeed demanded. The fact that disease may be combated not only by the cure of affected individuals, but by individual prophylaxis and by general sanitary measures, calls for a more formal and effective recognition than it has yet received. The three medical specialties of the future are curative medicine, the supervision of personal hygiene and the direction of public hygiene; and progressive medical schools must soon begin to make provision for symmetrical development along these lines. Differentiation within the medical profession is, to be sure, already taking place, but is still in an early embryonic stage. Men trained in the methods of curative medicine drift into public health work without adequate equipment for the special tasks before them, and, while the results accomplished, thanks to the adaptability of the American character, are often surprisingly satisfactory, it can hardly be doubted that a still higher level of attainment would be reached if facilities for acquiring a suitable training were more easily come at and if more men prepared themselves with malice aforethought for the public health service.

One great obstacle to the adoption of public hygiene as a career is undoubtedly the low value heretofore set by society on proficiency and knowledge in matters pertaining to the public health. There is at present little to tempt an ambitious young man to fit himself as an expert in any phase of community medicine, since the hope of the social and financial recognition that reward the eminently successful practitioner and the assurance of a modest competence for a moderate success are alike lacking. This discouraging outlook for a livelihood and a career is the rock that has wrecked the few sporadic courses that have been launched by American universities and professional schools with the purpose of providing trained men for the public health service.

> No birds were flying in the air,
> There were no birds to fly.

The remedy for this unfortunate condition is plainly to make the public health service a career worthy of the best efforts and the highest aspirations. The problems of sanitation are essentially as attractive as those of curative medicine, and effective public recognition seems the one thing withheld. In the long run the standing of men that specialize in public hygiene must be determined by the community at large, but the medical profession can do much by its own position to bring about

6. THE JOURNAL A. M. A., June 15, 1907, 2047.

7. A recent president of the British Medical Association, Dr. Henry Davy, has stated that fifty years ago his immediate predecessor in practice frequently received as much as $1,500 a year for attending typhoid fever cases, but that during the past few years his own income from typhoid patients has hardly averaged $25.—Brit. Med. Jour., Aug. 3, 1907.

a proper evaluation of the work done in this field. As one important step better opportunities should be provided in medical schools for the training of men in public hygiene. In connection with the engineering schools of large universities or in cooperation with technical schools, courses of study leading to a special degree ought now to be planned by all progressive medical schools. Investigation of the broader aspects of disease and disease-prevention should be encouraged, not merely as affecting individuals, but as affecting the masses of mankind. Specialists in public hygiene should be supported by a united and organized medical profession and the value of such special service as they can render made unmistakably and authoritatively evident. Public opinion is now sensitive on matters affecting the public health and will lend a ready ear to professional advice. Now is the time to turn our faces to the investigation of disease on the large scale, to make clear that the prevention of disease is more worthy of consideration than the cure and, foreseeing the inevitable decline of curative medicine, to foster and develop the newer art of sanitation as an integral part of the work of the medical profession.

Original Articles

PREGNANCY AS AN ETIOLOGIC FACTOR IN DENTAL DISEASE.*

JAMES E. POWER, D.M.D.
PROVIDENCE, R. I.

In dealing with this most important phase of the pathology of pregnancy, I wish to state that I understand but little of the causes producing the destructive processes which involve the organs of mastication during this period. On the other hand, I believe that possibly it may be of interest to record my experiences and observation of certain conditions existing during the period of gestation, with the hope that they may serve as stimuli to other minds.

It is a well recognized fact that the child-bearing process is a natural and physiologic episode in the life of the female. It is equally well recognized that in the life of the pregnant woman every day brings forth numerous conditions which have the power of converting physiologic into pathologic conditions, embracing every form of disease from interference with the function of a special organ to the cessation of all function. In the former instance, we have disease; in the latter, death either of the embryo or of the mother.

Nature does much to fortify herself against all of these dangers; the heart, for example, is said[1] to become hypertrophied to such a degree that its weight is increased about one-fifth, the ventricle or propelling portion being the part affected. This expansion of the heart is very probably for the purpose of meeting the extra work required of it during the advancing months of pregnancy. Provisions are made, likewise, for the spleen, the liver, the kidneys, and in fact for all the organs, in order that they may perform the duties required of them while further changes occur in the respiratory, circulatory, nervous, and digestive systems. In view of the fact that these changes take place within a very short period of time, we can understand how easily the resistant capacity of the system may be decreased. During the metamorphoses just described, the pregnant woman must digest more food in order to supply the growing organs, the embryo and herself, with nourishment; hence a greater supply of blood and an increased activity of the excretory and secretory organs result from these physiologic changes.

All of these changes have their relative effect on the conditions of the oral cavity and its appendages. To note these, therefore, is one of the obligations which both the dentist and the physician are bound to respect. These changes influence the nervous system, and, therefore, render the individual peevish, fretful, and careless. A form of neurasthenia perhaps causes the individual to become depressed. I have repeatedly observed that even women of refinement grow careless, neglectful of their personal appearance, and in some cases, almost entirely disregardful of the laws of hygiene during this period when so many changes are taking place, tending naturally to lessen their resistent capacity, and to increase the tendency to disease.

Perhaps no part of the body is neglected more than the oral cavity, and in many instances, no part of the body manifests more strikingly the result of this neglect.

Since the physician is responsible directly, and the dentist, indirectly, for the salvation of the teeth during the time the pregnant woman is in their charge, their first duty is to impress on the mind of the patient how dependent is the entire system on the cleanliness of the oral cavity. It is reasonable to suppose that all persons of average minds, now realize that the conditions necessary for the growth of micro-organisms are heat, moisture and the presence of oxygen. A moment's reflection causes us to realize that the blood, the saliva, and the air we breathe, furnish these requisites, and therefore, predispose to a rapid development of micro-organic life, having the power not only of causing disease in other organs, but also of producing death. Scientific investigators have proved this beyond any reasonable doubt, and so it devolves on us as professional men not only to advise and instruct the pregnant woman, but more particularly to insist on a proper recognition of this most important law of nature, namely, that she should have a specially careful regard for the hygiene of her mouth. In seems to me that there is no domain in medicine wherein the physician and dentist can cooperate to such mutual advantage as in the treatment of the oral conditions arising during pregnancy.

The physician is usually acquainted with the fact that a most important physiologic phenomenon has taken place in the life of the woman at a time when a little advice to the patient is often invaluable. Generally, or at least in many cases, the physician is consulted before the patient has formed any of the habits which are characteristic of the later stages of pregnancy. He should prepare her, therefore, for the unpleasant conditions which are to follow, should teach her the dangers associated with unclean mouths. He should also inform her that the natural degenerative process resulting from her condition, together with her lessened resistent capacity, may cause complete destruction of the teeth, which will have not only a dangerous effect on herself but on the condition and health of her offspring.

In this instance, if in no other, the special knowledge and skill of the dentist should be solicited, and the patient placed in his charge. The dentist should make a thorough examination, and should restore all the diseased teeth to a normal condition, so far as this is pos-

* Read in the Section on Stomatology of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

1. American Text-Book of Obstetrics, p. 154.

sible. The condition of the patient will regulate to a large degree the kind of material to be used in restoring the teeth. It is my custom to consider very carefully the physical state of the patient, whether she is irritable or not, how many months she has been pregnant, etc. I give appointments to such patients about noon, as I find their condition is best at that time. The reservation of time is always short, never longer than one hour, and many times less, and I rely on my personal judgment, rather than that of the patient, as to her capacity for enduring the strain which is, to some degree at least, associated with dental operations, especially at this time.

I extract all broken down roots, after first subjecting parts to a local anesthetic. It is my custom to extract all broken down roots, even if the patient tells me that such roots have been in their respective positions for years without having caused any trouble. While the statements of the patient may be true, it is certain as a matter of pathology that all the conditions necessary for the formation of an abscess are present, and that the physical changes which are taking place may be sufficient to start the inflammatory process. The next important step is to clean the mouth thoroughly, and then arrange for the patient to make a monthly visit to the office, or for the dentist to make one to her home. This accomplishes two important objects: First, it causes the patient to take good care of the mouth, because she knows it is going to be inspected, and second, one can observe any unlooked for conditions, and correct them immediately, as well as assist the patient in keeping the mouth clean.

Vomiting, or morning sickness, which may be caused by a displacement of the viscera during the development of the embryo, or by a condition of the genital or digestive tract, or by a direct effect on the nervous system, superinduced by a displacement of the uterus, causing irritation of certain nerves, is one of the etiologic factors in dental disease. In my opinion, the destructive, degenerative processes which take place in the teeth during pregnancy can be traced directly to the periodic vomiting which is associated with this condition of life. In my own observation, the degree of morning sickness and the degree of dental caries are very closely related. For instance, in a few cases of disease of the stomach where there was an unusual amount of vomiting, there was also a very marked destruction of the organs of mastication.

Whether or not vomiting is caused by autotoxic or uropathic influences the conditions found in the oral cavity are the same. We are familiar with the fact that the contents of the stomach, under normal conditions, are highly acid, otherwise this organ could not perform its digestive functions properly. Clinical experience has demonstrated that pathologic conditions, such as dyspepsia, gastritis, ulcer, intestinal stricture and numerous other diseases which occur during pregnancy, increase the acidity of this organ and its contents.

During the process of vomiting, the contents of the stomach are thrown into the mouth. The result is that the surfaces of the teeth, the contents of the cavities in the teeth and the particles of food lodged between the teeth, are saturated with a strong solution of hydrochloric acid. The contents of the cavities, the accumulations between the teeth, together with the mucilaginous acid with which the teeth, during the act of vomiting, become enveloped will have the same effect on the enamel walls as a poultice would whose chief ingredient was acid. Even with a very limited knowledge of chemistry, we can appreciate the fact, that if a tooth was placed in a solution whose elements were chiefly predigested food and hydrochloric acid, the enamel walls of the tooth would be destroyed in a very short time, and that if we were desirous of preserving it we should apply some substance which would neutralize the solution. In the oral cavity during the process which I am describing we have almost such a condition. Therefore, we should follow the same chemical principles, and apply substances to neutralize the acidity of the oral cavity.

It seems consistent, on the whole, to remove all broken down roots, in order to minimize the danger of future trouble, as well as to repair or completely remove any badly fitting crowns or bridges, to prevent inflammation of the lining walls or the appendages of the oral cavity. After doing this the teeth should be thoroughly cleansed, and the patient instructed to use floss silk (which contains nitrate of silver), to remove all particles of food from between the teeth after each meal. If these instructions are respected by the patients cleanliness, one of the most important steps in the prevention of disease, is accomplished.

This in itself, is not sufficient, however, but it puts the mouth in a condition wherein the final treatment will be more effective than it otherwise would be. My next step is to treat the acid conditions before described. I accomplish this by requesting the patient to cleanse the teeth thoroughly (with a powder which contains tooth powder and bicarbonate of soda in equal proportion) at least four times a day, directly after each meal, and just before retiring. After each vomiting I advise her to rinse the mouth carefully with a saturated solution of bicarbonate of soda, then to use the floss silk to remove any particles of vomit from between the teeth, and to cleanse the teeth thoroughly with the tooth powder of the formula given above.

During the day I advise the rinsing of the mouth with a solution of bicarbonate of soda or milk of magnesia every four hours, each mouthful of the solution to be held one full minute by the watch. In some severe cases I prescribe the use of tablets whose formula is sodium bicarbonate, with directions to allow it to dissolve after having placed it between the cheeks and the first and second molar teeth, in the region of Steno's duct. If the rules or suggestions which have been prescribed above are followed there is but a remote possibility of any trouble of a dental nature occurring during the most critical period of pregnancy.

There are also some cases concerning which the dentist is requested to give advice. The treatment of toothache is one of the conditions which the dentist must consider. We may be called to see a patient in the later stages of pregnancy who is suffering from an abscessed tooth. What is the best possible advice to give in such a case? In order to determine that question we must reflect as to which would entail the greater amount of pain; first, to allow the tooth to remain in the mouth until the abscess may be incised, or second, to drill into the diseased tooth, remove the putrescent pulp, and treat the pulp canals, or third, to extract the tooth.

I believe most firmly that on the physical condition of the mother depends the physical condition of the offspring, and also that there is a direct relation between pain which we may term foreign and the normality of the child. Basing my mode of procedure upon

these principles, many times I extract the diseased tooth without any fear of causing an abortion. A local anesthetic is almost always used to destroy the action of the sensory nerve in the region of the diseased tooth. The cavity is washed with warm water, and a pellet of cotton saturated with a paste composed of camphor, phenol and orthoform is placed in the socket of the extracted tooth. If this method is followed all danger is reduced to a minimum. In my opinion the cases where an anesthetic (local preferred) is administered, together with the improved technic of modern extraction, the conditions which are conducive to abortion, namely, pain and shock, are so reduced that the element of danger is but a remote possibility.

Of course, I do not advise the extraction of all diseased or aching teeth at this time, but only of those diseased teeth whose treatment would entail so much suffering that the life of the embryo and possibly that of the mother would be sacrificed. While I regard a tooth as a very important organ I also feel that its value deteriorates in proportion to the degree in which it affects the health or life of the individual. On account of the physiologic changes which are taking place during the time corresponding to the menstrual period, it is considered safer to avoid the extraction of the teeth then, as there is a greater liability of causing abortion during this period.

Great care should be exercised by the diagnostician in determining the origin of any dental pain from which the patient may be suffering. The nervous phenomenon, known as reflex action, may be instrumental in confusing our diagnosis and likewise our treatment. Since pain is something which cannot be seen we are obliged to rely on the manifestations of the sometimes capricious nervous system. Many times a diseased condition will manifest itself by pain in parts remote from the seat of lesion. Therefore, disease in any organ may make itself manifest by pain in a tooth, whose treatment or extraction at this time will complicate rather than simplify the treatment. Garretson reports a case wherein a carious, aching tooth was extracted for the relief of pain. The desired result was not accomplished until an ulceration on the cervix of the uterus was treated and cured.

There is no doubt in my mind that the work which is now going on in the study of the chemistry of the saliva, will facilitate the solution of this problem later; but if this treatment which is within the reach of all, both rich and poor, and which has been so instrumental in the salvation of many teeth in my practice, may be suggested to pregnant women, with possibly a saving of their teeth, and an improving of the health of their offspring, the object of this brief record of experience will have found its attainment.

DISCUSSION.

DR. V. A. LATHAM, Chicago, looked on Dr. Power's paper as a further argument in favor of a broader education of the dentist. What, she asked, is the use of the dentist studying obstetrics? There is, perhaps, no use of the dentist studying the manipulative or operative part of obstetrics, but the elementary course should be studied. The peculiar reflexes which come into the histology and pathology of pregnancy ought to be taught in every dental school. Dr. Latham agreed with Dr. Power that there is no subject so difficult to handle as the obstetric part of dental practice. She believes that the women are to blame in many instances because they are careless or neglectful, or, perhaps, diffident or shy. It is only when necessity compels the average woman to go to a dentist that she will do so, and then comes the difficulty. A little surgical operation such as the killing of a pulp or opening an abscessed tooth must be done, and that is an operation that the average woman dreads so much in her daily life, and how much more must she dread it when she is so much more hypersensitive. Dr. Latham asked Dr. Power whether he preferred local anesthesia to the use of nitrous oxid gas. Dr. Latham considers the use of gas preferable, because if the patient has been trained to know that it is not dangerous she would, perhaps, be less worried. The mental effect would be better than if a local anesthetic is used unless the patient has had it before. Dr. Latham's experience is that sometimes there is a little more danger of sloughing, in spite of every precaution, and intense hyperemia and pain. Dr. Latham asked Dr. Power whether he finds that there is more caries present in cases where there is profuse salivation. Dr. Latham recently had one such case where everything failed to relieve the woman of most profuse salivation during her pregnancies until her diet was regulated.

DR. S. G. JACKSON, Vineland, N. J., referred to the belief held by many that the teeth should not receive operative treatment during pregnancy. This she considers a great mistake. At this period of a woman's life the teeth are, in many cases, especially susceptible to the ravages of decay, neuralgia, odontalgia and alveolar abscess. Any one of these conditions would be a greater tax on the nervous system than a judicious treatment which would relieve the patient without hazard, and would prevent the loss of one or more teeth for every child. Dr. Jackson emphasized the importance of careful attention to the oral cavity from the very beginning of pregnancy.

DR. M. I. SCHAMBERG, New York City, thought that the trouble has been that the medical man and the dentist have been too willing to view pregnancy as an absolutely physiologic process instead of keeping in mind that it becomes, in a measure, a pathologic process when the system of the mother is unable to keep up with the extra work that is put on it. The old saying "a tooth for a child" has been the accepted theory on which physicians have worked, and they have been willing to sacrifice the tooth for the child. They viewed it as a condition of affairs that could not readily be overcome. Dr. Schamberg felt that many of these troubles could be averted if on the first evidence of the cessation of menstruation the prospective mother were sent to the dentist for a preliminary examination of the mouth, so as to render the environment of that mouth absolutely clean and healthy. He views the destruction of the teeth as not alone caused by the mouth environment, but also as being due to a sort of dentomalacia, similar to osteomalacia, which would not be the case in a normal pregnancy, but which becomes an abnormal condition owing to the fact that the mother is unable to supply a sufficient quantity of lime salts for the nutrition of the child. If it were possible, in a scientific manner, to reach some conclusion as to what is essential in the building up of a mother during this period, Dr. Schamberg believes that many of the dental troubles which now manifest themselves could be overcome. Dr. Schamberg has noticed in the mouths of many women during the period of pregnancy the peculiar spontaneous appearance of white spots, a tooth deterioration that has been so much of a bother in the past that it has been ignored. It is not alone one tooth, he said, that the pregnant woman complains of as paining her during her pregnancy, and that drives her at the last critical moment to seek to have it extracted; it is not a mere cavity at the apex, but there is a destruction of the tooth structure that causes the eventual loss, not of one tooth for the child, but very often a set of teeth is absolutely destroyed during this period. A mother, during her child-bearing period, has reached the critical period of her life, and from that time on there will be tooth deterioration unless the greatest effort is made, not at the time when the pain exists, but immediately prior to it, by anticipation of the child-bearing period at the first disappearance of menstruation, to see that the mouth is in proper condition and is kept so.

DR. ALICE M. STEEVES, Boston, Mass., said that in a paper read in this Section seven years ago, dwelling on the reasons why a dentist should receive a medical education, one of the practical things she mentioned that a dentist should understand was the obstetric side of the profession. Physicians

would then also have an opportunity to understand the pathologic changes in the mouth coincident with pregnancy. There is a way, she said, to educate people to appreciate the importance of the care of their teeth. The way to educate the mothers is to begin at the mothers' meetings and teach them the whys and wherefores of these things. They must be shown that these reflex pains and the constant nagging and irritation is hurting the nervous system of the mother as well as that of the child.

DR. WEBER M. DAILEY, New York City, inquired whether any careful observation has been made of the mouth previous to pregnancy. He has noticed in many cases where the mouth has been well cared for, and looked after in a scientific and prophylactic manner, that there has been little or no distintegration of tooth structure during pregnancy. Of course, he said, where there is caries and considerable calcareous deposit present, the teeth are more or less affected. Dr. Dailey questioned the correctness of the statement that there is a certain amount of breaking down of lime salts in different parts of the body, and a rebuilding, a chemical and pathologic change. He pointed out, in the nature of prophylaxis, that if physicians would examine the secretions as well as the excretions of their patients, annually or semi-annually, or even monthly, any pathologic change could be discovered and treated. And, likewise, if this practice were followed with relation to conditions in the buccal cavity, the exact changes taking place during pregnancy could be determined.

DR. S. B. LUCKIE, Chester, Pa., spoke of the value of such papers as that of Dr. Power in affording physicians an opportunity to become familiar with what dentists think of such cases. He agreed with what the essayist said in regard to the treatment of the mouth during pregnancy. He has never hesitated to perform any necessary dental operation during that period, provided he had the full confidence of the patient. The extraction of teeth or the treatment of pulpitis can be undertaken. The treatment of pulpitis and the percementation of the teeth can very often be attended to in a temporary way for a few months until the time arrives when permanent work can be done. Pulpitis can often be controlled for several months by the use of iodoform or formaldehyd or thymol and, possibly, iodin. These agents can be sealed in the cavity and absorbed by the dentine, setting up an antiseptic condition that will often keep the tooth comfortable for some time.

DR. JAMES E. POWER, Providence, R. I., said that the principal reason for presenting his paper was the fact that it may be read by physicians, and in that way reach hundreds of thousands of people whom dentists would otherwise be unable to reach. The mental condition of the pregnant woman should receive a greater consideration. It should be viewed just as carefully as are the physiologic conditions which are superinduced by pregnancy. In this way the confidence of the patient is secured and treatment will be much more effective. Dr. Power stated that he always found the acidity more marked where there was a profuse salivation, but added that he took more tests in cases of profuse salivation than where the salivation was apparently normal. He confines himself to the use of local anesthesia almost entirely. There is, he said, always a variation in the manner in which gas is absorbed by different people. In pregnancy there is danger of producing convulsions and abortion. By using the local anesthetic this danger is eliminated, and all other dangers are reduced to a minimum. The first step in the injection of a local anesthetic is to wash the surface through which the needle is to be introduced, in the same manner as one would treat the surface of the abdomen if he were going to perform a laparotomy. The syringe is sterilized and filled, and the needle is inserted into the gum tissue. By withdrawing the needle just a little a space is made between the end of the needle and the tissue; then the anesthetic is forced gradually into the tissue, the needle being reintroduced within the whitened area. The tooth should not be extracted until anesthesia is complete, so as not to produce mental shock. Dr. Power emphasized the value of the frequent ingestion of small amounts of food, because a greater amount of food can be taken in a given time if divided in small doses than can be taken in a few large meals. Dr. Power has observed that the previous care that has been taken of the patient's teeth makes little difference in the condition of the teeth in the pregnant woman. He believes that the physiologic process changes to a pathologic one, regardless of the previous condition or habits of the individual as far as the teeth are concerned.

PHYSICAL DIAGNOSIS: URGENT NEED OF REVISION.

J. H. TYNDALE, M.D.
LINCOLN, NEB.

The collective title of "physical diagnosis" is applied in its narrowest sense to ascertaining the condition of the lungs, heart and large blood vessels—the contents of the thoracic cavity.

For the past two decades simplification of methods employed in physical diagnosis has been advocated by leading specialists in pulmonary diseases, Dr. Charles E. Quimby of New York City, being the foremost champion of the reform.

It is a common complaint on the part of advanced students that old legends which were taught as truths a generation or more ago still survive in the text-books and are still accepted by a great majority of the profession. It ought not be necessary to reconcile ourselves to the idea that still another generation will pass before the truth will filter down from specialists in lung diseases into the text-books.

He is a benefactor to the people who eradicates weeds from the farm and errors from the mind—in this instance the medical mind. By this token, if those of us who stand for revision can demonstrate to and convince the profession that we not only simplify methods and cut off more than two-thirds of useless terms, but arrive at a more sharply defined diagnosis than by the old methods, it stands to reason that revision is urgently needed.

To the insistent and somewhat inconsistent therapeutical cry of "back to nature" we insist on the amendment "back to physical diagnosis." And why? For the following sound and solid reasons:

1. In lung destruction the tubercle bacillus is a guest invited by the undernutrition of the host and marking an advanced stage of disease.

2. The tuberculin reaction is, at the present day, scarcely considered available for the diagnosis of human tuberculosis.

3. Thus far the Roentgen-rays have added nothing of any special value to older methods of physical exploration, save under the heading of "confirmatory."

4. Râles, rhonchi, with their countless adjectives pointing to their composition and locality, should be relegated to the background as concomitant features, not an underlying condition.

In the main, then, diagnosis of tuberculous invasion of the lung is as much dependent on skill in auscultation as it has ever been.

How early can we recognize the first beginnings of tuberculous invasion of the pulmonary apparatus? Can any additional signs be elicited by auscultation to fix the locality of the tuberculous invasion indicated by slowly progressive anemia or emaciation or persistent lassitude? The answer to the first question is: Just as early as the patient complains of anything, even if it be only getting tired easily. To the second: Quite as early as in advanced cases.

A verdict in diagnosis will not stand unless it is based on the combined values of general and local features.

In order of importance the general features rank as follows:

1. Persistent lassitude, attributed by the patient to his legs, but in truth based on accelerated tempo of the heart's action, with or without excess of central propulsion over arterial tension.

2. Progressive and persistent anemia, unaccounted for by other invasions of infection, inflammatory processes, central or peripheral nervous disturbances or, last but not least, stubborn stomachic or intestinal indigestion. This latter element should always be removed before a diagnosis is ventured on.

3. Progressive and persistent emaciation demands the same exclusions as recorded above. Frequent weighings alone are to be relied on, not the opinion of the patient nor that of his friends. The accepted general division of tuberculous and other forms of pulmonary consumption is into "open" and "closed" cases. An open case is one in which the products are open to and communicate with the atmosphere. Here evacuation and not "walling in" is imperatively indicated, as will be shown presently.

A closed case is one not accessible to the atmospheric air. Tuberculous pleurisy and enlarged glands may serve as examples.

For prognostic and therapeutic purposes, both open and closed cases will be found in the organism to exist as two very distinct and separate pathologic conditions, namely:

(*a*) Conditions inherent in the lymphatic channels. As a distributing center of tuberculous infection the bunches of tracheobronchial glands rank first. Richest in lymph vessels of all serous membranes is the pleura —"the dumping ground of the lymphatic system."

(*b*) Tuberculous or streptococcic infection engrafted on unresolved remnants of previous acute disease—croupous and catarrhal pneumonia, pleurisy, etc.

The products of both pathologic conditions are pus or connective tissue or both.

The difference between ancient methods and the modern scheme of simplification is best shown by placing them in sharp contrast. But I find that enumeration of old terms would fill a moderately sized monthly magazine (take the twenty kinds of râles as an instance) and hence proceed to present the modern method in the order practiced in making a diagnosis.

AUSCULTATION.

Auscultation recognizes only "tonality" and "pitch" as representing the sounds (or melody, if you prefer) heard in inspiration and expiration. The mechanical movements—the technical execution — are represented by "rhythm" and "tempo."

Tonality or the Keynotes.—Of these there are only two in the lung—pulmonary and bronchial, or, in other words, vesicular and tubular. These are the fundamental tones.

Pitch.—This differs from musical pitch by being relative. Tracheal breathing is our standard, as being the only fixed standard—inspiration and expiration as nearly as possible of the same pitch. In auscultation it represents the highest type of pitch, and all others are gauged by it as being "lowered" or "raised" in the locality heard. Three degrees of either are sufficient for correct diagnosis, as, for example: Pitch lowered in first, second or third degree. Pitch is never an adjunct of vesicular or tubular breathing. Brought about by the sum total of respiration, it is an entirely independent factor.

Rhythm.—Rhythm is the regular recurrence of accents, the characteristic of regular succession. It is punctuation. The rhythm of breathing in the normal condition of the lung is a regular succession of marked accents. It consists, as we all know, of inspiration, pause and expiration—what in music would be called a three-part rhythm. The rhythm of respiration is a continuous movement (legato), while that of the heart is interrupted (staccato). A change from the continued to an interrupted rhythm marks one of the earliest beginnings of a pathologic condition in the lung, both in infections and inflammations.

Tempo.—Tempo is nothing more or less than the speed of the rhythm. The normal tempo of breathing is from sixteen to eighteen respirations to the minute—about one to every four seconds.

RALES.

The importance attached to râles or rhonchi is another sacred tradition. Transudations and secretions accompanying functional or organic disease of the lung—whether serum, mucus, pus or blood— are not the pathologic condition itself, nor do they give us any definite clue to the same. Their expectoration or absorption still leaves the condition to be ascertained by tone, pitch, rhythm and tempo — four designations, as against twenty-seven of the old nomenclature.

PERCUSSION.

Percussion recognizes resonance only. Four degrees of resonance—excessive resonance or reduced (deficient) resonance—are ample to describe existing conditions. There is no such thing as pitch in percussion, other than applies to the chest walls.

INSPECTION.

Inspect for nothing but the anatomic sufficiency of the thorax, which sufficiency should bear some relation to the height of the patient, but not very much. Judge only by an abnormally narrow thorax or an equally abnormally wide one. The next step suggests itself. By a few deep inspirations (never mind the tape line and the number of inches) ascertain the physiologic sufficiency. Remember these facts: A narrow thorax may be capable of unlooked-for expansion, while a large barrel-shaped one may scarcely move at all—the so-called fixed thorax. What we are concerned with is the elasticity of the costal cartilages.

PALPATION.

Palpation is only useful for ascertaining the amplitude of the diaphragmatic excursions—the phrenic wave so-called. Remember that lateral, not anteroposterior expansion, is the gauge of sufficient respiration.

MAXIMS TO BE BORNE IN MIND.

Five general maxims are to be kept in mind. They are:

1. Raised pitch in auscultation, coupled to reduced resonance, denotes condensation.

2. Lowered pitch, coupled to exaggerated resonance, denotes expansion.

3. Both condensation and expansion of lung tissue lead up to the loss of elasticity. Temporary loss is a phase of healing processes. Permanent loss is one of the terminal phases of disease.

4. The degree of percussion resonance establishes the exact value of the respiratory pitch obtained by auscul-

tation. Percussion either confirms or negatives the auscultation find—the keynote of differential diagnosis between active and ended processes.

5. Areas or foci of infection or inflammation or both, demonstrated by auscultation and confirmed or not by percussion, exist either beneath the locality examined or are the result of mechanical hindrance to respiration.

How many practitioners ever discover and take cognizance of diaphragmatic pleural adhesions? Is it not true that diminished respiration in the upper lobes of the lung is invariably placed to the credit of an infiltration when, as a matter of fact, in the great majority of those cases full respiration is made impossible by traction of pleuritic adhesions in the axillary region?

Pleuritic adhesions have two attributes. They are permanent and progressive. Thickenings already on hand are there to stay and gradual encroachment from their periphery to uninvolved tissue is the rule.

For convenience sake, let me speak of pleuritic adhesions as linear and flat. The former occur along the inner edges of the sternum, the inner edge of the scapula and, last but of the utmost importance, on the upper surface of the diaphragm. The flat variety occurs in the infra-axillary region and is the most aggressive as to upward progression.

I am well within the truth in saying that the most neglected field in medicine and the one in which most slipshod diagnoses are made comprises the existence, effects and treatment of pleuritic adhesions and their mechanical effects. Of equal importance as a mechanical hindrance is the "albuminous agglutination" (Dr. Abrams, San Francisco) of the peripheral pleural surface to the chest walls with its accompanying anemia from continued traction and possible gangrene of parts involved—a frequent phase of consumption.

"Nature's barriers" is the term applied to the above processes, as well as the encapsulation of tuberculous foci. Adhesions may be a defense, but not a curative defense. On the contrary, they are part and parcel of the invasion—extension of the inflammatory process, inseparable from tuberculous infection. In other words, adhesions, tuberculous or rheumatic, are not constructive but destructive and call for removal wherever found. Liberating the imprisoned lung (by hypodermic injection of sodium cinnamate) should always precede the now firmly established vaccine therapy by immunization with watery extract of tubercle bacilli.

Modern methods seek to inculcate that from the earliest beginnings of pulmonary consumption to the most obvious and readily ascertainable manifestations this is the sequence:

1. Permanently accelerated tempo of the heart's action, not due to peripheral resistance in the liver or kidneys or demonstrable in the lung, associated with one, two or all three of the general features, lassitude, anemia, emaciation; temperature or no temperature; microbes or no microbes. This is the true skirmish line of pulmonary consumption. Presence or absence of high temperature and of tubercle bacilli, even when sputum is abundant, likewise holds good in the more advanced forms of pulmonary consumption. I note this to avoid repetition.

2. Permanent change of rhythm associated with lassitude, anemia or emaciation, singly or combined. The ancient method names these changes: Cogwheel respiration, prolonged pause, audible and prolonged expiration. Modern dictum: Inspiration, pause, and expiration may singly or in unison be involved. The pathologic changes of rhythm are simply the reverse of the physiologic, i. e., smoothly flowing audible inspiration converted into an interrupted (staccato) one, a prolonged pause where previously inspiration glided directly over into expiration, now displaced by a prolonged and audible one. Cogwheel respiration and cracked-pot sound are illustrations of the truism: "Comparisons are odious."

3. Changes in pitch, heard permanently over a given area. At this stage of disease development a diagnosis is complete even without the general features of lassitude, anemia or emaciation. On the other hand, percussion must confirm the find by deficient resonance (the old impaired resonance or dullness). Normal or excessive resonance denotes an emphysematous (dilated) patch overlying a healed or healing area.

Note this law: Pitch is always "raised" in progressive disease until it merges into a change of tonality (tubular breathing). This pitch raise is always relative—namely, gauged by the tracheal pitch. Pitch in health is "lowered" from the standard and "raised" in disease.

Diagnosis by pitch relation includes all processes in the pleura, be the contents solid, liquid or air. The folly of percussing first and auscultating afterward is markedly illustrated by contents of the pleura. In either case we have the highest degree of pitch (silence), requiring a differential diagnosis by percussion. Excessive resonance for air, dulness for solid contents, flatness for fluid. Percussion first is putting the cart before the horse.

4. Permanent change of tonality from the pulmonary to the bronchial, from diffused to concentrated tubular breathing. Complete solidification or excavation (cavity), deep seated or near the surface; single or multiple; or advanced shrinkage, overlaid or not by an emphysematous patch, call for no particularly fine adjustment in auscultation. The changes in tonality—the "quality" of ancient writings—can be heard by any one with an untrained ear. Incidentally, it is always well to remember that bronchial or tubular breathing is present not only in pathologic but in physiologic conditions as well. In the latter it is drowned by the low-pitched pulmonary breathing. As with pitch, a diagnosis is here complete in the absence of general features.

There is no need of such terms as "cavernous" or "amphoric" breathing or of the terms named above.

Note the presence of râles only as an incident and as indicative of furnishing sputum. Drop the terms sibilant, sonorous, gurgling, bubbling, coarse, mucous, fine, crepitant or subcrepitant. Every instructor in physical diagnosis knows full well that this multiplicity of terms only confuses and disheartens the students. And what is more to the purpose, these terms are of no earthly value in arriving at a clean cut diagnosis.

"Let the dead past bury its dead."

The Bad Habit of Using Purgatives.—The *Indiana Medical Journal* agrees with Dr. Edwin Walker of Evansville, who teaches that purgatives are responsible for most of the constipation of the people who use them. They have the pill-purgative propensity, and are educated to the practice and fortified in their use by the physician. The present purgative habit of American people is the natural outcome of intemperance in diet, of the use of concentrated food and too much of it, of physical laziness and mental apathy. It is far better to teach people to abandon purgatives than to use new ones. Modern pharmacy has done much for medicine, but too much in the way of purgatives.

SIMULTANEOUS SPHYGMOMANOMETRIC PRESSURES AS MODIFIED BY POSTURES.*

A. H. SANFORD, A.M., M.D.
CHICAGO.

The study of the circulation of the blood has ever been one of the most interesting subjects of investigation since laboratory methods have been instituted in physiologic work. More recently the importance of studying the pressure of the blood in the human subjects has been appreciated by both physiologists and clinicians. It is hardly to be expected, however, that anything like a complete review of the literature of this important subject can be presented here, since, as Dr. Erlanger[1] says: "It would be impossible to read merely the titles of the important contributions within the time allotted."

Stephen Hales is credited with having made the first study of blood pressure in 1733. His experiments, performed on a mare, were crude and would scarcely meet the approval of the "antivivisectionists." The essential principles of his work, however, are still utilized in our experiments in the physiologic laboratory, with the addition of the mercury manometer and solutions that prevent the clotting of the blood. The names of Poisseuille, Ludwig and others are associated with the mercury manometer and its improvements, though these gentlemen did their work nearly one hundred years later than Hales.[2]

The vast volume of work has been done and reported within the last fifteen years. The names of von Frey, von Recklinghausen, Potain, Marey, Oliver, Hill, Riva-Rocci and many others need only to be mentioned to recall their instruments and their work. Besides these, every year adds scores of names of those who report some further study. So, after all this vast amount of work, comes the question: "What has been accomplished and what is yet to be done?"

Some writers have concluded[3] that: "On the whole, the fruits are scanty in comparison with the time spent." The Committee on Research for the Division of Surgery, Harvard Medical School,[4] did not arrive at any very encouraging conclusions as regards the utility of the Riva-Rocci apparatus in surgical patients. However, it can not be denied that a considerable amount of accurate information has been derived from recent researches. The work of Cushing, Crile, Erlanger and Janeway surely will not yield "scanty fruits." The excellent volume on the subject by Janeway[5] is doubtless in the hands of every physiologist and clinician who contemplates investigation along this line.

The arteries of the upper extremity are generally selected for the measurement of blood pressure, more especially the brachial, with palpation of the radial. Convenience and uniformity evidently account for the present criterion, that the brachial should be used for measurement, and the compression applied at the level of the heart. But we find frequent queries in the literature concerning the pressure in other parts of the arterial tree. Kellner[6] cites von Frey to the effect that if the study of the pulse is to be more than a mere pastime it should be applied to several parts at once, investigating the pulse in various regions, if possible, with different apparatus and simultaneously.

In a review of the subject of blood pressure, Cowan[7] brings out some interesting points. He cites Potain's statement that results vary in the different arteries in the same individual, and that a slight difference may often be found even in symmetrically corresponding vessels, as the two brachials of the same person. Cowan states further that "pressure in the radial artery can not be considered to represent blood pressure throughout the whole body." On the other hand, "Oliver has found that blood pressure does not appreciably vary if influence of gravity is excluded, and v. Recklinghausen states that pressure estimated simultaneously in upper arm and thigh by modified Riva-Rocci apparatus gives approximately the same figures."

Gravity, which Oliver is represented as assigning as the cause for differences in pressure, of course, is only partially responsible. Goldwater[8] says: "Gravity is not the sole factor to be here considered. The cardiovascular system is more than a series of inert containers having unchangeable dimensions. A change in position, whether from lying to standing, from sitting to standing or from lying to sitting, is associated with variations in muscular and mental tone which produce reflex alterations in tension through the great nerve centers." And many others could be quoted to the same effect; in fact, it is accepted now as a very apparent fact.

It was, then, the suggestion made by so many that there is a difference in the different arteries, that led to the present investigation. v. Recklinghausen,[9] who has done so much of real worth, reports a comparison between the pressure in the thigh and in the arm. Apparently he has made these determinations on only one individual and in only one position, the supine. His results for this position are characteristic, and I give his table as reported.

TABLE 1.

Simultaneous measurement of pressure on the upper arm and thigh. Subject of Experiment H., aged 60, height 167 cm. (5 ft. 6 in.), weight 62 kg. (126.4 pounds). Measurements taken in the forenoon, recumbent. Pressure expressed in cm. of water.

No.	Pulse.	Radial Artery.	Artery of Foot.	Difference.
1.	Returns	138	138	0
2.	Returns	132	132	0
3.	Disappears	148	147	—1
4.	Disappears	142	142	0
5.	Returns	131	135	4
6.	Returns	130	129	—1
7.	Returns	144	144	0
8.	Returns	142	145	3

The relation of posture to blood pressure was also reported by the same experimenter:

TABLE 2 (125).

Influence of the position of the body on the blood pressure. The blood pressure in cm. of water. Subjects of Experiment H. and W.

Position.	H.	W.
Standing	116	132
Sitting	123	143
Lying	125	145
Lying without a pillow	110	

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907.

* From the Department of Physiology, Northwestern University Medical School.

1. Recent Contributions to the Physiology of the Circulation, THE JOURNAL A. M. A., xlvii, 1343.

2. Blood Pressure and Pulse Rate, THE JOURNAL A. M. A., Oct. 1, 1904.

3. Ueber Blutdruck u. Blutdruckmessung. Correspondenz-Blatt f. Sweitzer Aerzte, 1905; abst, THE JOURNAL A. M. A., June 3, 1905, 1819.

4. Report of the Committee: Blood Pressure Observations in Surgical Cases, Boston Med. and Surg. Jour., 1904, cf, 255. Also article in footnote 1, p. 1343.

5. The Clinical Study of Blood Pressure, 1904. D. Appleton & Co.

6. Klin. Beabt. über Blutdruck, pulsatorische Druckzunahme so wie ihre Beziehungen zur Pulskurve. Deutsche Archiv f. klin. Med., Leipsic, lxxxiv, Nos. 5-6.

7. A Review of Recent Work on Blood Pressure, Practitioner, August, 1904.

8. Med. News, May 24, 1903, 967.

9. Arch. f. Exp. Path. u. Pharm. Leipsig, xlvi, 78-132.

It should be noted that these readings are in centimeters of water; in mercury pressure their range would be from 82.5 mm. to 110 mm. The reading made on H. (Table 2) without a pillow is interesting, but, I believe, has no significance, as I can not find that raising and lowering the head while the body is in the supine position has much effect. My readings for the supine were made without a pillow.

The influence of posture on blood pressure has been thoroughly worked out, especially with reference to a comparison with the pulse rate, by Dr. Stephens.[2] His readings correspond to v. Recklinghausen's, with a decrease in rate when there is an increase in pressure. He explains the changes lucidly by the formula for blood pressure, P varies as Hr x Hs x R. (Where P equals pressure, Hr equals heart rate, Hs equals heart strength and R equals peripheral resistance.) He shows that the factors involved in increasing P in changing from the standing to the supine posture are Hs and R, since Hr is diminished; and further explains changes in R on hydrostatic grounds chiefly, but acknowledges other factors. We find in Stephens' work a query as to the actual relation of the pressure in the upper to the lower portion of the arterial tree, and in the researches of v. Recklinghausen another query as to what the relation of the pressure in arm and thigh would be were the individual to assume different postures. It is on these grounds that my work was undertaken.

THE INSTRUMENTS.

Ever since the significance of the circulating blood stream has been realized there has been a study of the pulsating artery in the wrist. To-day we are taught to observe not only the rate, but also the size, the quality and the rhythm. The clinician demonstrates to us the *"pulsus celer et altus,"* which, in combination with the records of pulse and temperature on the history sheet, confirms his diagnosis. But it is safe to say that the novice, be he "recent graduate" or interne, is often in doubt concerning a *"pulsus tardus et parvus"* or a *"pulsus dicrotus."*

There should be, then, a demand on the part of the clinician, as well as the physiologist, for an instrument that will measure accurately the pressure of the circulating blood stream; an instrument so simple in construction that its adjustments are readily understood, and yet so accurate that its records are significant. We have had many sphygmomanometers since Stephen Hales[10] measured the height of the column of blood in a brass tube connected with the crural artery of the mare, and a few of these, undoubtedly, very nearly approach the ideal. A very complete description of the different forms of instruments is given by Dr. Janeway,[11] with a classification based somewhat on the historical essays of Vaschide and Lahy.[10] Accordingly, it is necessary merely to mention the instruments of v. Basch, Potain, Gaertner, Hill and Barnard, etc., and to say that, while these instruments are still used somewhat extensively in Europe, they are far from perfect and are not presented as practical instruments for a clinician to consider.

Probably the most accurate instrument is that of Erlanger.[12] It does not seem likely, however, that this instrument will ever gain any very general use, as it is expensive and cumbersome. For clinical use it is, therefore, impracticable, but for laboratory use it is unexcelled. Two other instruments have recently been put on the market, Stanton's[13] and Janeway's. The first is not so readily portable and is costly. Dr. Janeway's instrument is well made, is easily carried, and, while it is not perfect, it is, undoubtedly, a most satisfactory, handy sphygmomanometer for clinical purposes.

One of the older instruments is the Riva-Rocci sphygmomanometer.[14] This instrument did much to establish the idea of applying compression to one of the larger arteries by a circular pneumatic band. It has been used universally and undoubtedly is the best understood apparatus in use in the laboratory or hospital. Cook's[15] modification is used extensively in America. There are two forms, one portable, with a jointed manometer, and one with a one-piece manometer for hospital use. The manometer is easily broken and the mercury easily spilled.

The instrument that I have used is Hall's adaptation of Cook's Riva-Rocci sphygmomanometer for use in the physiologic laboratories of Northwestern University Medical School. Its simplicity in construction should recommend it to practitioners and students, who can readily manufacture such an instrument for their own use, without much expenditure of time or money. I shall, therefore, attempt a brief description of its parts.

AN EASILY MADE SPHYGMOMANOMETER.

1. *The Manometer.*—The ordinary mercury manometer is all that is necessary. Use a piece of glass tubing about a meter in length, thus making each arm of the U tube nearly 50 cm. long. The tubing should not have a greater caliber than 3 mm., nor should tubing with a caliber less than 1 mm. be used.

The tubing is heated in the Bunsen flame, and bent in the center to form a U. The two arms should be parallel, and not more than 1½ or 2 inches apart. One of the arms is bent to a right angle 2 inches from the end. It is to this short curve that the rubber tubing from the pressure apparatus is attached. The straight arm is left open. The U must be attached to a support. Take a piece of pine 18 inches long by ¾ inch, and just wide enough to slide between the arms of the U tube; groove the sides so that it will slip readily. Specially constructed brass clamps or strong rubber bands, or strips of adhesive tape can be used to hold the U to the support. A short arm of iron projects at the back of the wooden support, and by means of this the manometer is clamped to an iron stand. A centimeter, rule, held to the support, between the arms of the U, by means of two rubber bands, makes an admirable adjustable scale. The mercury is run into the manometer slowly from a medicine dropper, or through a twisted paper cone. If the mercury does not run down readily, shake the manometer with a swing, as in shaking down a clinical thermometer. It is essential that there be no bubbles of air breaking the mercury column. There should be a "stand" of about 20 cm. in each arm of the manometer.

2. *The Pneumatic Arm Band.*—The ordinary Riva-Rocci girdle is 5 cm. wide. To make these the inner tubes of bicycle tires were used; a piece of this tubing about 18 inches in length is cemented at both ends, a valve stem is cemented in the center, and a piece of strong webbing is cemented on the outside to prevent ballooning of the band outward. These bands are not long enough to reach around the adult thigh, so I made one 6 inches longer for this purpose. A 5 cm. band is all right for comparative readings, but registers too high for accurate determinations. This point was demonstrated by v. Recklinghausen[9] in the following readings:

10. Vaschide and Lahy: La technique de la mesure de la pression sanguine, Arch. Gen. de Med., 1902, 350.
11. Clinical Study of Blood Pressure, pp. 43-104.
12. Amer. Jour. of Phys., 1904, x; Proceedings of Amer. Phys. Soc., xiv.
13. Univ. of Penn. Med. Bull., 1903, xv, 466.
14. Un nuovo sfigmomanometro, Gazz. Med. di Tornio, 1896, Nos. 50, 51.
15. THE JOURNAL A. M. A., 1903, xl, 1199.

TABLE 3.

12 cm. Broad Cuff.		5 cm. Riva-Rocci Cuff.	
Right upper arm	90- 96	Left	116
Right upper arm	92-100	Left	114
Right upper arm	90- 98	Left	112
Right upper arm	92- 98	Left	114
Left upper arm	96-104	Right	118
Left upper arm	94-104	Right	120
Left upper arm	104-108	Right	120
Totals	94-101		116

As I found some difficulty in securing obliteration of the pulse in the lower extremity, in my early trials, I experimented with wider girdles and found them more satisfactory. Janeway insists that the arm band should be 12 cm. Erlanger uses a 12 cm. band. The Stanton girdle is but 8 cm. Dr. G. L. Walton,[16] after examining 108 male patients, using three widths of bands, 5 cm., 9 cm. and 12 cm., says on this subject: "My observations would not quite justify the conclusion that a width of at least 12 cm. is necessary, for I have found the registration of the 9 cm. cuff quite constant, and varying so little from that of Janeway that for clinical purposes the former seems to answer every requirement."

The bands were, therefore, made 9 cm. wide, being constructed from a piece of inner tubing of an automobile tire. Use a good carbon disulphid and chloroform cement, and the ends can be closed as if vulcanized. A piece of leather was cemented on the outside, to prevent loss of pressure outward. The band is applied tightly to the limb, the ends lapped over and clamped firmly by means of two small screw clamps.

3. *The Pressure.*—Janeway and Erlanger use a valved Politzer bag. Any form of bulb that gives pressure enough and that will hold the pressure answers. The Paquelin cautery bulb is hardly powerful enough. A double atomizer bulb, made of heavy rubber, is especially suitable, the bulb in the net being as heavy as the pressure bulb. The latter is double-valved.

A glass Y divides the pressure as it comes from the bulb. Heavy, non-distensible rubber tubing connects each arm of the Y to the manometer and band, respectively. A T tube is placed between the Y and the manometer, and a short piece of rubber tubing, closed by a pinch-cock, is placed on the open end of the T. This device permits the escape of the air from the apparatus, after a reading has been made.

4. *General Observations.*—It is seen, then, that in this instrument we have merely Cook's modified Riva-Rocci sphygmomanometer adapted to laboratory use, simple and inexpensive. It has not the accurate empirically graduated scale of a Janeway instrument, nor the fine mechanism of an Erlanger, but, with a broad band, I feel that it can be recommended for practical work, especially when comparative results are sought. It is not readily portable, yet the manometer is not very cumbersome, and the tubing and bulbs are easily stowed away. The sphygmomanometer, of any type, is destined probably to be more practical for office and hospital use, than as an adjunct to the visiting bag. In reading the mercury manometer it must be remembered that pressure forces the mercury in the proximal arm down and in the distal arm up, and that the difference in the stand is the amount of pressure. Since the change in level up in one arm equals that down in the other the change in level is read in the open arm and multiplied by two to obtain the total pressure.

EXPERIMENTS.

Method of Procedure.—The short girdle is applied to the arm nearer the elbow than the shoulder. The pinch-cock is removed from the rubber attached to the open arm of the T tube while adjusting the arm band, and the residual air is forced out. The ends of the band are lapped, pulling it tight, and the clamps are firmly placed. The scale is set so that the mercury reads 1 mm. below the zero mark, as it takes about 2 mm. pressure in the system to fill the arm band so that any appreciable pressure is exerted on the underlying tissues.

In like manner, the apparatus for the thigh is adjusted. Here, however, the band is placed about the limb as close to the body as possible. The thigh has a fairly uniform circumference in its upper third, and by applying compression in this manner one does not lay himself open to the criticism made of Mummery by Erlanger:[1] "It is impossible to apply circular pressure to the thigh of a dog without having a large component of pressure lost in dragging the cuff toward the apex of the cone."

The radial artery is readily palpated, and the changes in the pulse while the brachial is being compressed are noted in the usual manner. The arm is held so that the band is at the level of the heart and the forearm is flexed perpendicularly to the arm. This position of the arm is maintained for the different postures of the body. The vessel that is palpated in the lower extremity is generally the dorsalis pedis artery. This vessel varies in different individuals. In some the doralis pedis was found more readily palpable than the radialis, while in a few it was next to impossible to find the faintest pulsation. In one case (No. 1, First Series of Readings) a strong pulse was found in the internal malleolar branch of the anterior tibial artery, and no sign whatever could be found of the dorsalis pedis.[17] In another case, it seemed very difficult to find any trace of the dorsalis pedis until a cutaneous branch, or perhaps the artery itself, was found pulsating at the inner side of the tendon running to the great toe.

With the palpating fingers on these terminal arteries, the pressure is slowly applied, constricting the limb and forcing together the walls of the larger, deeply-lying vessel by compressing it against the underlying bone. The Riva-Rocci instrument measures the systolic pressure; i. e., a reading is made of the stand of mercury at exactly the time that the pulse is obliterated, and also when the pulse first returns as the pressure is diminished. An average of these two readings, which should be approximately the same, is recorded. This point of maximum blood pressure is taken as the systolic pressure. It was noticed in using the 5 cm. band on the thigh that it was somewhat difficult to secure obliteration of the pulse, but that as pressure was applied the pulse became stronger, and then at the point where the pulsations were the strongest there was a sudden diminution in their strength. The pulse was thready from here on to final obliteration. The significance of this was not entirely understood when it was first noticed, but there are many references to this phenomenon in the literature and more than one opinion as to its value. Dr. Cook[15] calls attention to a maximum and a minimum pressure. He furthermore suggests that the maximum pressure, which is most readily determined with his instrument, be accepted as a criterion. Dr. Erlanger's sphygmomanometer measures accurately these maximum and minimum pressures which he calls systolic and diastolic, and he maintains that both pressures should be reported to make further work in blood pressure of any avail. There has been much controversy as to whether the diminution in amplitude of the pulse occurs when the pressure equals the minimum (diastolic) or the mean pressure. Brush,[18] in his investigation of this point, found that the diminution, as determined by palpation of the radial, occurred at the point of diastolic pressure as measured with Erlanger's instrument, but its inventor,[1] in his recent paper, laments the

16. Blood Pressure in Paresis, THE JOURNAL A. M. A., xlvii, 1341.

17. In the dissecting room I have seen a similar anomaly in which the external malleolar branch was a large artery, and the dorsalis pedis was a mere terminal arteriole.

18. Amer. Med., July 15, 1905, p. 97.

fact that a more objective method had not been employed. Sahli[19] uses a Jaquet sphygmochronograph to note changes in the amplitude of the radial, as does also Hensen.[19] Strassburger[20] palpates the pulse with the finger and has no doubt that the diminution in amplitude measures the diastolic pressure. He quotes Gumprecht[21] in his description of the action of the pulse, but adds[22] that the change in amplitude comes suddenly after the maximum pulsation, thus making it easy to determine the point exactly.

With opinions such as these, none of them exactly concurring, I noticed carefully, in my second series of experiments, the character of the pulse and the action of the manometer during the entire time that compression was being applied.

In all my experiments I have followed consistently the work of Stephens in the matter of posture. Therefore, my readings are recorded for the erect, sitting, supine and head-down, or Trendelenburg positions of the body. The readings for both arm and thigh were made practically simultaneously, and the time was allowed in each position for the adjustment of the circulation to the new conditions. Of course, care was taken that there was no pressure on the band around the thigh when the individual was sitting on the chair or lying on the table. The hips raise the body sufficiently in the supine position to prevent pressure of the band against the table. In the Trendelenburg posture, the bend of the knee was held away from the edge of the table. At all times it was insisted that the body should be kept relaxed.

TABLE 4.—FIRST SERIES OF EXPERIMENTS.

Made with 5 cm. cuffs; readings are the averages between the point of obliteration and of the return of the pulse of radial and dorsalis pedis arteries; mm. of Hg.

	Erect.	Sitting.	Supine.	Trendelenburg.
Case 1.—B.				
Arm	110	115	115	130
Thigh ...	180	133	114	115
Case 2.—S.				
Arm	130	150	135	138
Thigh ...	191	165	145	113
Case 3.—T.				
Arm	132	136	140	152
Thigh ...	160	158	142	138
Case 4.—G.				
Arm	105	108	110	110
Thigh ...	140	136	130	120
Case 5.—S.				
Arm	82	82	92	94
Thigh ...	110	105	94	90
Case 6.—L.				
Arm	120	133	152	158
Thigh ...	160	154	150	154
Case 7.—W.				
Arm	80	84	102	112
Thigh ...	140	108	108	94
Case 8.—W.				
Arm	80	88	99	109
Thigh ...	148	120	102	90
Case 9.—W.				
Arm	74	74	90	94
Thigh ...	126	106	92	88
Case 10.—W				
Arm	71	76	88	98
Thigh ...	128	106	92	88

The last four readings were made on the same individual at different times.

Considerable difficulty was found in these early experiments in obtaining obliteration of the pulse of the dorsalis pedis. I noticed plainly, though, the increase in amplitude of the pulse, its sudden diminution and its thready character until obliteration. It was my experience that in an easily palpated dorsalis pedis these changes were sometimes more readily apparent than in the radial. To study further the significance of the character of the pulse, and to have records that would be more clearly accurate according to the criteria of Janeway, I constructed my 9 cm. cuffs, and found that the ease with which an accurate determination could be made was greatly increased. I then conducted my second series of experiments, noting not only the systolic pressure, but also the point at which the diminution of the amplitude in the pulse occurred after the method of Strassburger. In my records I followed his example and arbitrarily called the two readings the systolic and the diastolic pressure.

TABLE 5.—SECOND SERIES.[23]
LABORATORY PROTOCOL.

Cuff used, 9 cm. wide; subjects were members of the freshman class at Northwestern University Medical School. Pressure, mm. Hg.

1.	Erect.	Sitting.	Supine.	Trendelenburg.
Arm.				
Systolic	84	90	94	100
Diastolic	70	70	76	80
Thigh.				
Systolic	104	94	94	80
Diastolic	80	76	76	70
2.				
Arm.				
Systolic	126	124	132	134
Diastolic	110	110	112	115
Thigh.				
Systolic	164	150	128	110
Diastolic	120	120	110	80

By using the Hall-Quetelet[24] method of summarizing anthropometric data, the results of the data of the second series may be observed in the following table, showing the readings of the "median value:"

TABLE 6.—MEDIAN VALUES.

	Erect.	Sitting.	Supine.	Trendelenburg.
Arm.				
Systolic	115.8	120.3	132	136
Diastolic	96	100	108	112
Thigh.				
Systolic	176.25	166.6	140	125
Diastolic	150	144	117.6	103

Gumprecht, in his description of the changes in the pulse during compression of the limb, would lead one to conclude that the pulse gradually increases to its maximum amplitude, then gradually diminishes to its obliteration. On this point, however, Strassburger is unquestionably right when he says that the diminution comes suddenly. Furthermore, I believe, as he does, that at this point we measure the diastolic pressure, though I have not had the opportunity to follow the example of Brush and compare this method with an absolute instrument, such as Erlanger's. Nevertheless, our manometers show one characteristic that is a further check on our readings, that is the marked oscillation of

19. Deutsch. Archiv. f. klin. Med., 1900, lxvii, 437.

20. Ein Verfahren zur Messung des diastolischen Blutdrucks und seine Bedeutung für klin. Medicin. Ztschr. f. klin. Med., 1904, liv.373. *"Der systolische Druck wird in der üblichen Weise bestimmt, durch Messung der Drückhöhe, bei der vorher maximale Radialpuls Den diastolischen Druck giebt das Manometer an, wenn bei zunehmender Compression der Brachialis der vorher maximale Radialpus für den palpirenden Finger eben anfängt kleiner zu werden."*

21. Gumprecht: Ztschr. f. klin Med., 1900, xxxix, 380: *"Der Puls verändert sich während dieser Compression sehr characteristisch. Er wird zuerst deutlich roller, bei Circulationsschwäche weit deutlicher zählbar und erreicht das Maximum seines Volumens gegen 100 mm. Hg. Dann verkleinert er sich etwas. Dicht vor dem Zeitpunkt des Verschwindens wird er plötzlich sehr klein, etc."*

22. Strassburger says, however: *"Das Kleiner werden des Pulses nach dem Maximum verhältnissigmässig rasch erfolgt und dadurch eine deutliche Grenze zu erfinden erlaubt."*

23. Protocols of 92 subjects are here omitted to save space. The median values are given in Table 6.

24. THE JOURNAL A. M. A., Dec. 21, 1901; also Experimental Physiology, 115.
Formula:
Let
n = total number of observations.
m = number of observations in median group (group in which n/2 is found is median group).
l = sum of groups to left of median groups.
a = minimum value of median group.
d = arithmetical difference between minimum values of groups.
M = median value, to be determined."
Then

$$M = a + \frac{d(n/2 - l)}{m}$$

the mercury. Janeway[25] depends on "the lowest point of maximum oscillation" for his determination of the diastolic pressure. His manometers perhaps are more sensitive to slight pulsation than ours. However, it is noticeable in a mercury column that is not oscillating whatever as it rises, that at a certain point it suddenly pulsates with every systole of the heart, or that in a slowly sinking column these pulsations suddenly cease. It is also noticeable that at the point of marked oscillation in a slowly rising column there comes suddenly a diminution of the pulse. In every case we could not secure well-marked oscillation, but if the band is adjusted tightly and pressure not increased nor diminished too rapidly the mercury column generally indicates the change that is palpable in the pulse. Furthermore, a marked oscillation was noticed in a majority of the cases just before reaching the point of obliteration of the pulse. Between the points of maximum and minimum pressure the column of mercury did not show in many instances any pulsation.

Therefore, as I believe that the pulse is obliterated when a pressure is exerted equal to the systolic pressure in the vessel, I also believe that the palpable diminution of the amplitude of the pulse occurs when a pressure is exerted equal to the diastolic pressure, and that in most cases we have a check for our observations in the oscillations of the mercury column.

I have found it much easier to take my first readings as the pressure rises, and thus follow a thready pulse to obliteration, rather than to notice the point of return. After having experimented with over ninety subjects in taking the blood pressure, I feel that I must insist on taking the readings in the manner described. If the pulse is watched closely and the pressure applied slowly, the diminution in the pulse is very apparent and can be read. It is often so marked that in illustrating this point to students who were assisting me they invariably said: "There, it is gone," and I have no doubt that this point has been recorded by observers as being the systolic pressure. It is in covering this point that I have found the double atomizer bulb to be very valuable. After the point of diastolic pressure had been approximately determined the compression was removed and then again slowly raised to within 5 mm. of the former reading; the second bulb (the one in net) was then used to raise the pressure to the exact point of diastolic pressure. This could be determined most accurately, as the second bulb is not valved and compression is controlled for 10 mm. to 15 mm. entirely by pressure of the hand on the bulb; thus by raising the pressure a few millimeters above and then allowing it to sink slowly below, the change in the character of the pulse is easily noticeable. We have also the check, before mentioned, of the oscillations of the mercury. The exact point of obliteration of the pulse is determined in like manner.

It is evident, I think, that, in making a reading in this fashion, we have the arteries in their natural state of distensibility and contractility. On the other hand, when pressure is applied considerably in excess of the point of obliteration, and readings are made depending on the changes apparent while the pulse is slowly returning, the diastolic pressure, or point where the artery has just recovered its normal state, will be read too low. An inert, elastic rubber tubing, compressed to obliteration of its lumen, would be somewhat sluggish in regaining its elasticity as pressure was removed. How much more sluggish, then, would be the action of an artery having not only elastic walls but also contracting muscles that must be fatigued by this unusual pressure on them?

25. Clinical Study of Blood Pressure, page 92.

DISCUSSION OF FINDINGS.

Factors of Blood Pressure.—The formula employed by Stephens in his study of the changes of blood pressure due to posture is simple and comprehensive: P varies as Hs x Hr x R. Janeway,[26] in his discussion of the factors of blood pressure, names: "(a) The energy of the heart; (b) the peripheral resistance; (c) the elasticity of artery walls; (d) the volume of the circulating blood." It will be readily seen that the first three factors named can be classed either under "heart strength" (Hs) or "resistance" (R). The last-named factor, "the volume of the circulating blood" throughout the entire body is believed by Janeway to be of less importance physiologically than clinically. However, the rush of blood to any one region is a most important factor. Janeway's classification of the factors for blood pressure of an individual is for "any given moment," and so does not include "heart rate" (Hr). This important factor bears a definite relation to the other two. However, let us consider this point later. The most important factor, R, is in itself somewhat complex. It covers both "the peripheral resistance" and "the elasticity of the artery walls."

What, then, would be the value of this factor in two different vessels, such as the brachial and the femoral, compared simultaneously? In quadrupeds the arterial supply of the anterior limb is about the same as that of the posterior, so far as the character of the vessels is concerned. In man, however, there surely is an appreciable difference. The brachial is a moderate-sized vessel, given off near the heart, while the larger femoral artery and its terminations is the farthest from the heart. The smaller vessel in a smaller limb would have a less amount of muscle fiber and connective tissue in its walls and less capacity in its lumen and, therefore, should be somewhat more readily compressed than the vessel which must carry more blood. Then, in the lower extremity, there is a proportionately greater venous back pressure to overcome. In the larger limb there must also be a much larger capillary area, an additional factor in resistance. All these factors have their influence without reference to posture, but if, from the spine, where the circulating stream is all practically on a level, the position be changed to the erect, then the hydrostatic pressure becomes an important factor. It acts most at the lowest level below the heart. The back pressure in the veins is increased from valve to valve and makes the resistance back through the capillaries greater, while at the same time gravity assists the contracting vessel wall, and the ventricle itself, in forcing the stream through the arteries. Another factor that is undoubtedly of much importance in regulating resistance, and in that way the blood pressure of the entire body, is the circulatory system of the splanchnic area. Probably the heart rate itself is controlled through the stimulation of the sympathetic nervous system in this exceedingly vascular area. We might naturally suppose that any local change of this sort would be more manifest in the pressure in the thigh than in the arm.

The Influence of Posture: Standing.—By referring to the table of median values, it is seen that in this posture the lowest pressure is in the arm and the highest in

26. Clinical Study of Blood Pressure pp. 11, 28.

the lower extremity, both systolic and diastolic. In comparing the maximum and minimum pressures, we see that there is a difference of over 60 mm. between the systolic pressure in the arm and the thigh and a difference of 54 mm. in the diastolic pressures; also, that the diastolic pressure in the arm is about 20 mm. lower than the systolic, while in the thigh there is a difference of over 26 mm. The weight of the column of blood from the thigh to the heart level would equal about 45 mm. of Hg. The force of gravity acting in the direction of the circulating stream would augment the heart force. But there are still other factors acting in the lower extremity to account for an additional 15 mm. pressure, making the total difference of 60 mm. between the arm and thigh. The increase in volume of the blood is answered by an increase in the peripheral resistance, through a contraction of the vessels and capillaries, in an attempt to control the rush of blood. That the quality of elasticity and contractility in the vessel wall is being taxed in the lower portion of the body accounts for a difference of 26.25 mm. between systolic and diastolic pressures and only 19.8 mm. difference in the arm. That the vessels act greatly in the circulation is noticeable in diseases affecting them, and in the use of drugs, vasodilators and vasoconstrictors. The factore, then,

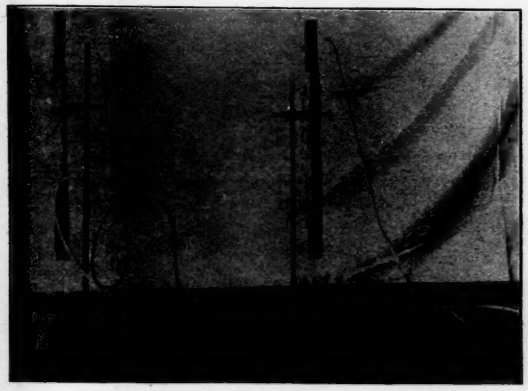

Fig. 1.—Two sphygmomanometers showing: Manometers attached to iron stands with 30 cm. sliding scale; pneumatic girdles with screw clamps; pressure apparatus, double atomiser bulbs, rubber tubing, Y tube, T tube, and pinchcock.

causing the difference in the blood pressure in the arm and the thigh are gravity, increasing the volume of the circulating blood below the heart level, and the increased resistance through actual action on the part of the vessels themselves. Stephens further points out that through the conditions in the splanchnic area affecting the nervous system the heart rate is increased in this position. Thus we see, on the part of Nature, the effort to adjust the intricate circulatory system to every change in condition, and to return the blood as rapidly as possible from the lower portion of the body, threatened with engorgement, to the upper levels, threatened with depletion.

Sitting.—Here the factors are changed by the decrease in hydrostatic resistance, due to flexion of the thighs, and the horizontal direction of a column of blood 40 cm. in length. We notice that the systolic pressure in the thigh has fallen nearly 10 mm. The diastolic pressure has fallen but only 6 mm. The fall can be attributed to decrease in hydrostatic resistance; on the other hand, because there is a slight decrease in the volume of blood, the action of vessel wall is of more avail, and we see that the diastolic pressure in the thigh is really over 2 mm. nearer the systolic pressure when the individual is sitting than when erect.

In the arm we find a slight rise in pressure. There is an increase in the flow of blood to the part; the vessel walls are acting under a slightly greater strain, and while we find an increase in diastolic pressure it is .5 mm. lower in comparison to the systolic pressure than it was in the erect posture. The heart rate is slightly lower. A decrease in the amount of blood below the heart calls for a slower return of the blood to the heart levels.

Fig. 2.—The sitting posture.

Supine.—The pressure is markedly increased in the arm with a still greater difference between the systolic and diastolic pressure than in the former postures. In the thigh there is a marked decrease in the pressure, with very little change in the difference between the systolic and diastolic pressure. But the pressure in the thigh is still 8 mm. higher than in the arm. This seems logical, inasmuch as the peripheral resistance is still greater in the thigh than in the arm. This is not in

accordance with von Recklinghausen's statement that the pressure is the same. A consultation of the table of data will show that had I taken the readings of one person only, as did v. Recklinghausen, I might have reported that the pressure was the same in the arm and the thigh, in the supine; or that it was 20 mm. higher in the thigh, or even that it was lower. In other words, in attempting to reconcile the conditions found in an individual to the standard set by the average, individuality must be considered as a factor. I have found in comparing the pressures in the arm and in the thigh that the height of the individual and the size of limbs are two ever-present factors.

Stephens gives 68.7 as the pulse rate for this posture in comparison with 86 for the erect and 82 for the sitting postures. The heart is not called on to work so fast in this position in an effort to maintain a balance of the flow of blood to the extremities.

Trendelenburg.—In this posture, the balance is tipping in the opposite direction from the first one recorded, and the records show opposite conditions. There is a slight increase in pressure in the arm and a decrease in the thigh. The tendency is for the blood to gravitate to the upper part of the body. The average heart rate, according to Stephens, is 65.8, a trifle slower than for the supine.

From these data we are able to formulate rules regarding the effect of posture on the pressure in the upper and lower extremities. It is evident that in the arm or at the level of the heart the pressure increases, as it decreases in the lower limb, from the erect to the head-down posture; also that the increase in the arm and the decrease in the thigh are slightly more for the systolic than for the diastolic pressure. Thus the difference between the systolic and the diastolic pressure gradually increases for the different positions, from the erect to the Trendelenburg in the arm, and at the same time the difference decreases in the lower limb.

This difference between systolic and diastolic pressure is called by Erlanger and others the "pulse pressure." Strassburger[27] divides this difference, between the maximum and minimum pressure, by the maximum to obtain his *"Blutdruckquotient."* This somewhat arbitrary method of procedure does not seem to be used extensively. I am not able to formulate any law concerning the effect of posture on the pressure quotient that will apply for the individual case.

Erlanger,[1] however, asserts that the product of "pulse pressure" by pulse rate remains approximately the same in different postures. This I have found to be true, using Stephens' average pulse rate and multiplying them by the pulse pressures of the upper extremity. It is obvious that this rule holds only for the arm or at the level of the heart. Apply this fact to the formula for blood pressure, assuming the pulse pressure to be heart strength, we have Hs x Hr = a constant. Then, since P equals (Hs x Hr) x R, and the product of the first two factors is a constant, P varies as R. The peripheral resistance, with its elements of vessel wall action, hydrostatic pressure and volume of blood, is the most important factor in determining blood pressure.

DISCUSSION OF INDIVIDUAL CASES.

In studying the blood pressure of each individual, many interesting features were noticed. I can not mention more than a few of them, as each reading shows peculiar to the individual. I have mentioned the effect of height and the size of the limbs. The thirty-fourth subject (second series) was the tallest man in the class, but not the largest limbed. He is a habitual tobacco user and has a rather low pressure. The change in pulse pressure in the arm is typical. His pulse was especially noteworthy. While the systolic pressure in the arm changed from 102 mm. in the erect to 120 mm. in the head-down, the pulse was 112 for the erect, 82 for the sitting, 68 for the supine and 68 for the Trendelenburg postures. Surely, this is example enough of the futility of recording the pulse rate without also noting the posture. Many of the men used tobacco more or less, and in some the blood pressure was found to be low, with marked changes in pulse, as in the one just mentioned.

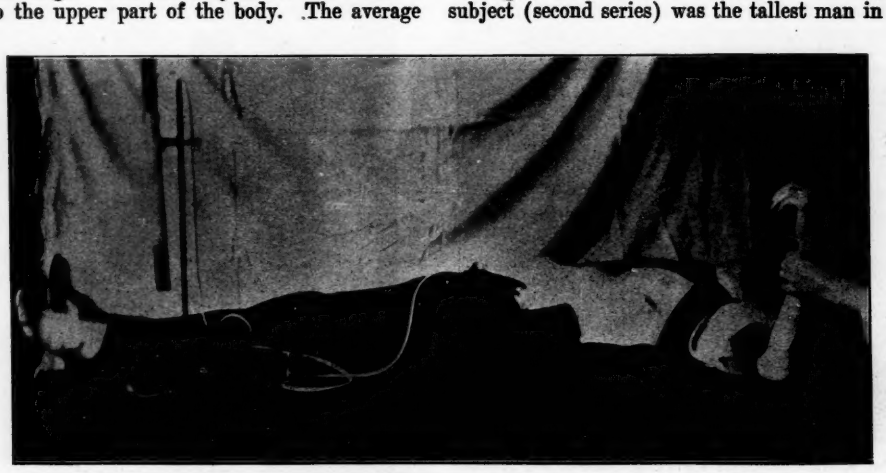

Fig. 3.—The supine posture.

The former "high school athletes" furnished interesting material. No. 9 had been a bicycle racer from 15 years of age until he went "stale," and we found a hypertrophied heart, completely compensated, and a high blood pressure, affected greatly by posture. Note the pulse pressure in the arm, 36 mm., 50 mm., 54 mm., 60 mm. Could one ask for a clearer picture of a hypertrophied left ventricle pouring a large quantity of blood into the aorta? A strange difficulty presented itself in

27. Ztschr. f. klin. Med., 1904, liv, 387-394.

reading the pressure in the thigh in this case, and also in No. 45, who is a wrestler. This was a very active clonic spasm of the muscles of the thigh when compression was applied.

One other noticeable phenomenon occurred in all the cases, but very markedly in a few—hyperemia of the distal portion of the limb. This maximum coloration was apparent when pressure about equal to the diastolic pressure was applied. Mention of such an apparently trivial point would not be made, except that it has occurred to me that this is a condition aimed at in the Bier treatment. Why not, then, it seems pertinent to ask, employ sphygmomanometers to secure this passive congestion? Thus we may know exactly the degree of compression being applied, may apply the same pressure each day, and may compare exactly the amount of compression with the blood pressure? This method, it seems, might be preferable to the simply tying of a rubber tube about the limb. It may appear to be far-fetched, but is it not possible that this laboratory instrument might be used conveniently and effectively as a therapeutic measure in the passive hyperemia treatment?

I might discuss at length many other interesting features that occur in studying the individual, such as the effect of suddenly chilling the body, the blood pressure in neurasthenics and in students under unusual nervous and mental strain.

I would also suggest that a careful study be made of the pressure after the ingestion of a full meal or the drinking of a large quantity of water, or the use of a definite amount of alcohol. In one individual I noted the effect of a hypodermatic injection of 1/50 of a grain of nitroglycerin and found a fall of 32 mm. in the blood pressure in less than six minutes and a slight increase in the pulse rate. Would this not be an interesting and scientific method of studying the effect of physiologic doses of the cardiac stimulants and vasomotor drugs in our laboratories of experimental pharmacology?

CONCLUSIONS.

1. By carefully noting the changes in the pulse as compression is being slowly applied, not only is the point of obliteration noticeable, measuring the systolic pressure in the vessel, but also the point of diminution in the amplitude of the pulse, or the diastolic pressure is to be observed, and, furthermore, in many instances, a marked oscillation occurs in the mercury column at and above the point of diastolic pressure.

2. Posture affects both systolic and diastolic pressure. There is an increase of pressure in the arm in changing from the erect to the sitting, supine and the head-down positions and at the same time a corresponding marked decrease in the pressure in the lower extremity. These changes of blood pressure are attended with a marked decrease in pulse rate.

3. The pulse pressure, or difference between diastolic and systolic pressures, increases in the arm and decreases in the thigh as the body changes from the erect to the sitting, supine and Trendelenburg postures.

4. At the heart level, Hs x Hr = a constant in all postures. Therefore, the pressure changes directly as the peripheral resistance.

5. In the sphygmomanometer we have a convenient method of applying a known amount of compression to a limb, and thus may make of it a therapeutic instrument in methods of passive hyperemia treatment.

6. For accurate results the pneumatic arm band should be at least 9 cm. wide. Readings are from 15 mm. to 30 mm. lower than with the ordinary Riva-Rocci 5 cm. girdle. The width of the band should always be recorded.

DISCUSSION.

DR. WALTER L. BIERRING, Iowa City, said that these investigations into the great variability in the blood pressure in normal individuals will have a great influence in the conclusions we come on to in case of diseased individuals.

DR. JOHN C. HEMMETER, Baltimore, declared that the paper has a very important bearing on the pathology of the living tissues, but still more on the dynamics of growth, of development, even on the embryo. He asked Dr. Hall whether or not the pulse pressure difference between the systolic and diastolic pressure is as constant in the thigh and arm as was shown on the blackboard. The difference between the thigh and the arm is very marked in the Trendelenburg position, but it was not at all marked in the figures given on the board for the thigh. He also asked Dr. Hall whether or not he had any laboratory experience with the Erlanger apparatus for measuring blood pressure in the human subject.

DR. JOSEPH SAILER, Philadelphia, stated that many years ago, when he was a medical student, he was working in the pharmacologic laboratory preparing his thesis, and Dr. H. C. Wood was doing some experiments on anesthesia. Dr. Wood had a dog in a balanced trough with a manometer in the carotid and one in the femoral artery. When the dog was put in the erect posture the blood pressure in the carotid sank very distinctly, and when inverted, head down and tail up, the blood pressure in the femoral artery sank distinctly. Dr. Wood's results were published in 1890. Dr. Sailer said that he has done a good deal of work with Stanton's modification of the Riva-Rocci apparatus, and confessed that he feels a little bit doubtful of diastolic pressures. They are more difficult to read than the systolic. Such a difficulty might explain these results. It seems to him, however, that the figures given in the paper are pretty satisfactory. The only thing he wonders about is whether or not even 9 cm. is broad enough for the thigh cuff. In a stout individual he should have thought it was not.

DR. JOHN C. HEMMETER, Baltimore, said that the manometer obviates that difficulty with the diastolic pressure.

DR. WINFIELD S. HALL, Chicago, said that they have not used the Erlanger apparatus and that he is not able to say whether or not Erlanger says much about this pulse pressure, as it is called by some of the German observers, and by pulse pressure they mean the difference between the diastolic and systolic pressure. The reason why more individuals were not observed than the 94 is because that comprised almost the whole freshman class in the school. The students were brought in four at a time, and the whole forenoon was devoted to taking the observations. Dr. Sanford was exceedingly careful in his observations and did not begin his work on these 94 men until he had worked a number of months on the technic—testing cuffs of various widths, and single and double atomizer bulbs. He finally chose the wide cuff and the double bulb as being most trustworthy. The second bulb has a net not readily distensible. By manipulating the bulbs he held the pressure so there would be no regurgitation, and then putting one hand on the bulb within the net and the other on the pulse and watching the mercury meniscus he was able to bring the pressure up. He made the reading on a rising pressure. Many observers make it on a falling pressure. After observation of these two ways he settled on the use of the reading on a rising pressure as being the safer and more satisfactory. When he reached the point where the pulse began to get noticeably weaker then he varied the pressure by pressing his hand on the second bulb. The pressure could be raised a millimeter at a time and maintained absolutely as he wished to hold it, and in the meantime the pulse was observed very closely on the mercury meniscus, and when he had it where the lowest pressure was observed that gave the oscillation of the mercury, just at that moment there would be a drop in the force of the pulse, and that is the point where he made his observations of the diastolic pressure. Then raising the pressure until the pulse was obliterated, he made the second reading.

A CASE OF HAIR BALL IN THE STOMACH.*

J. B. HARVIE, M.D.
Attending Surgeon at Troy and Samaritan Hospitals and Consulting Surgeon, Leonard Hospital.
TROY, N.Y.

The following case is interesting on account of its comparative rarity and on account of the fact that a mass completely filling the entire stomach, and causing distension much beyond its normal capacity, could exist for years, creating no gastric disturbances.

Patient.—M. H., female under 10 years of age, of North Adams, Mass., was sent by Dr. E. E. Russel. She was a seven months infant and weighed 3 pounds at birth. The child was removed instrumentally on account of puerperal convulsions in mother and was breast fed.

History.—Whooping cough and measles, at eighth year; both light attacks. Always a moderately nervous child. A squint of left eye was corrected by glasses. No convulsions. Always a good sleeper. Appetite good; food well digested and patient well nourished. School attendance began between six and seven years of age, was bright in her studies, active on her feet, always ready for her meals and never complained of any

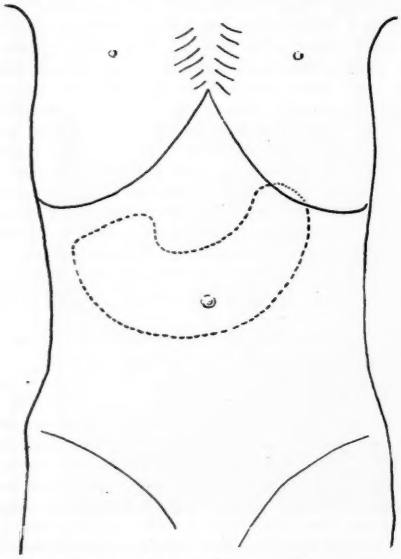

Fig. 1.—Diagram showing relative position of stomach.

discomfort in the abdomen. She began picking at carpets and woolly materials and swallowing the pieces when she was a very young child—before she commenced to walk. She developed an early desire to pick her hair and swallow it; she was almost completely bald from this habit, and her mother noticed small masses of hair in her stools at odd times for many years. The history of the case during her entire life time until the illness immediately preceding operation was absolutely uneventful.

Present Illness.—She was taken ill May 14, 1907, with nausea and more or less vomiting. Pain in the epigastrium followed the vomiting which was so severe that Dr. E. E. Russel, the family physician, was sent for. He found a mass in the upper abdomen, sausage shaped, which he thought might be impacted feces. A brisk cathartic and high enema was followed by a copious purge which contained a small bundle of hair. At his next visit the mass was even more distinct and answered in every detail the outline of the stomach. This, taken with the past habits of the child, and the fact that masses of hair had appeared in the movements from time to time, led him to make a diagnosis of a probable hair ball in the stomach.

Examination.—Examination at Troy Hospital, May 20, 1907, showed a well nourished child of good musculature; well developed and full blooded. The heart and lungs were both normal. Pulse rate was not accelerated and there was no increased temperature. On inspection a well defined mass was seen in the epigastrium, corresponding to the outline of the stomach, somewhat movable on inspiration and expiration. On palpation the mass had rather a doughy feel and an indistinct fine crackling was elicited. There was moderate gastroptosis. The stomach extended in its long axis from the outer border of the left rectus muscle at its costal attachment to well beyond the outer side of the right rectus, with its most dependent part somewhat below the level of the umbilicus (Fig. 1). The shape and outline approached very nearly a semi-circle. The introduction of a stomach tube was accomplished without difficulty until it was blocked by the tumor, at the cardiac end of the stomach. With some coaxing it passed along sufficiently to introduce a few ounces of fluid, and by continued repeating and syphoning off, sixteen ounces were introduced at one time. The fluid returned clear but contained a moderate amount of mucus. This was repeated several times before operation. With the introduction of the fluid the stomach became more prominent. Under anesthesia the tumor was easily movable and its entire outline readily demonstrated. The fine crackling (similar to rolling a bundle of hair between the fingers) was evident and strongly corroborative of the composition of the mass.

Operation.—An incision was made through the right rectus muscle, splitting its sheath anteriorly and posteriorly. The

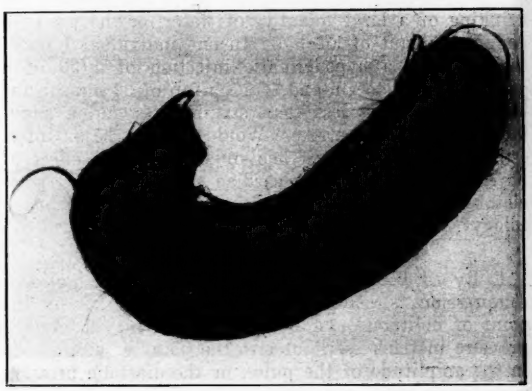

Fig. 2.—The hair tumor removed from stomach; 1/3 size.

cardiac end of the tumor was presented in the line of incision and after walling off the cavity thoroughly an incision in the anterior wall of the stomach sufficient to permit of the engagement of the masss its delivery was readily affected. It proved to be a bundle of hair as diagnosticated, was a perfect mold of the stomach—extending in its long axis from the cardiac orifice through the pylorus into the upper part of the duodenum. The pyloric end was conical and projected into the duodenum about 1¼ inches. The hair ball, from its peculiar shape, (its great curvature measuring 13 inches and its circumference 7 inches) caused more elongation than dilatation of the stomach. It was made up of hair of varying lengths, absolutely black, and densely packed (Fig. 2).

The gastric mucosa was highly irritated, but there were no definite areas of ulceration. The incision was closed by means of mattress sutures of fine silk, and the abdomen closed without drainage.

The patient was discharged from this hospital on the twelfth day after operation completely recovered.

It has been known for a long time that concretions may develop within the stomach, giving rise to an abdominal tumor. These concretions are made up of

* Read before the Third District Branch, New York State Medical Society, Albany, N. Y.

articles swallowed, either intentionally or otherwise, from force of habit, hysterical individuals or those who are mentally disturbed. Those masses are usually made up of hair, woolly materials or vegetable fiber, string, and sometimes resinous material. The hair ball, on account of the habit of swallowing the hair in small amounts, together with the continuation of the habit, eventuates in the formation of a well-defined tumor. Before the ball attains any considerable size it is usually oval in shape and will be found located near the pyloric orifice. With increase in volume the movements of the stomach will gradually alter the outline until it assumes a contour corresponding exactly to the outline of the stomach itself, or, in other words, constituting a true mold of the stomach.

Where a large accumulation is found it may extend, as in this case, from the cardiac orifice through the pylorus well into the duodenum. From the constant action of the gastric walls the bundle of hair becomes rolled into an exceedingly solid mass and may possess enormous proportions, if made up purely of hair or vegetable fiber, before giving rise to disturbances of a serious kind. Those accumulations are found in the lower animals. They are exceedingly common in horses, cattle, dogs and angora cats principally, and are said to cause death occasionally. The reported cases have occurred almost entirely in females. Of the twenty cases of hair ball in the stomach which have been reported, all but one occurred in females.

The[1] first case reported in the literature, by M. Baudamant, in 1779, was a male, who died at the age of 16 years. At the autopsy a hair tumor was found in the stomach 17 cm. in length, and one 12 cm. in length in the duodenum.

The cases reported would seem to substantiate the fact that the habit of hair swallowing is acquired at an early age, and although the tendency to engage in such practice is greater when the hair is long, and worn loose, hanging about the shoulders, nevertheless, the habit has been noted in some instances in creeping children.

RUSSEL'S CASE.[2]—*History.*—Woman, aged 31, had a large tumor in the abdomen, which was supposed to be an enlargement of the spleen. It occupied the left side of the abdomen and extended into the pelvis. It presented a concavity on its inner side and passed beneath the false ribs. The entire splenic region was dull on percussion. Its great length in proportion to its breadth caused some doubt as to its being splenic. It had been increasing in size for 17 years. It was first observed when the patient was 14. The patient's health had been good and she suffered little from indigestion. She had vomited blood however. Death in this case followed a miscarriage.

Autopsy.—The autopsy was made by Dr. Prusser. The tumor consisted of a mass of hair molded to the shape of the stomach and was presented *in situ*. It had drawn down the stomach in a vertical line, so that the pylorus lay in the pelvis. The mass was divided into two unequal parts fitted to one another, constituting a hard and solid mass of hair. It weighed 4 pounds and 7 ounces. In this case the patient was not emotional nor hysterical and the habit of hair swallowing was not suspected. This woman had no difficulty in swallowing her food.

INMAN'S CASE.—T. Inman[3] reports a case occurring in the practice of Dr. Dickinson of Liverpool.

History.—Woman, aged 34, died with obscure symptoms. The stomach was found full of hair matted into a mass of the shape and size of the viscus when distended by a full meal. Specimen in the Museum of Royal Infirmary Medical School. The patient had been in the habit of swallowing hair.

BEST'S[4] CASE.—*History.*—Female, aged 30, began to have pain in her stomach when she was 15 years old, with vomiting and diarrhea. She was constantly under the care of a physician. A tumor was discovered in January, 1863, and was supposed to be a scirrhus cancer of the stomach. Best was much puzzled at the case and treated it as one of fecal impaction. In September, 1869, while the patient was working in the field, she had a violent pain in the abdomen, followed by peritonitis, with renewed attacks, when death occurred in October of that year.

Autopsy.—This disclosed a general peritonitis. The peritoneal cavity contained 10 ounces of dark fluid. The stomach was completely filled with a hair ball, which weighed 35 ounces. The stomach was perforated. There was a single round ulcer at the seat of perforation on the posterior gastric wall. In this case the patient's relatives bore witness to the fact that this woman had made a practice of eating her hair for 15 years.

BERG'S[5] CASE.—*History.*—Female, aged 26, had been suffering with dyspepsia and vomiting for 3 years. A tumor had been noticed in the epigastrium for 2 years, with very rapid growth in the last six months. Entered hospital (Stockholm) May 31, 1887.

Operation.—The stomach was opened by incision 8 cm. in length, parallel to the greater curvature. A tumor of hair was found which weighed 900 gm. The patient made an excellent recovery. The mother said that when the child was 3 years old she had the habit of chewing her hair.

BOELLINGER'S[6] CASE.—*History.*—Girl, aged 16, had been complaining for 2½ years with symptoms of gastrointestinal catarrh, loss of appetite, vomiting, abdominal pain, liquid movements, insomnia, and finally no nourishment except liquid could be taken. A tumor was detected in the epigastrium. Death resulted from exhaustion.

Autopsy.—Stomach and duodenum distended with a great amount of hair. As a child she had been in the habit of pulling out hair putting it in her mouth, which she must have swallowed.

JACOBSON'S CASE.[7]—*History.*—Child aged 11, complained for 2 years and 6 months of gastric disturbance; vomited a great deal of frothy mucus but never any food or blood. There was a swelling noticed in her abdomen one year prior to the operation. She suffered with colicky pains, particularly at night. She was compelled to live on milk, solid food causing severe distress. The child was poorly developed. A successful gastrostomy was done.

Charles Stover, Amsterdam, N. Y., reported at Amsterdam City Medical Society, 1895, the following case:

History.—Girl, aged 11, presented symptoms of incomplete obstruction for a period of ten days, with rectal tenesmus. It was said she had suffered with colicky pains in the upper abdomen for two years. She was in the habit of eating her hair, the temporal regions being bald. Examination of the anus showed a projecting tuft of hair like a camel's hair brush. An enema was followed by the discharge of a ball of hair and relief of all the symptoms. The mass measured two inches in length and three inches in circumference.

The first successful case was reported by Schoenborn[8] in 1883. J. Knowsley Thornton,[9] Jan. 9, 1886, reports a case in which a hair ball weighing 2 lb. was successfully removed in 1884. In Thornton's case the diagnosis of hair ball in the stomach was made prior to operation. The diagnosis based on the fact that the patient had passed small quantities of hair in the movements. This is the first authentic case in which the character of the mass was diagnosticated prior to exploration.

1. Jour. de Méd., 1779.
2. Med. Times and Gaz., June 26, 1869.
3. Med. Times and Gaz., July 3, 1869.
4. British Med. Jour., Dec. 11, 1869.
5. Sajous' Ann. Universal Med. Sciences, 1889, I.
6. Münch. med. Wochschr., June 2, 1891.
7. Med. News, 1901.
8. Langenbuch's Arch. f. klin. Chir., 1883.
9. Lancet, Jan. 9, 1886, also Trans. Path. Soc., London, 1886.

William Finder[10] reported a case occurring in the practice of the late William S. Cooper.

History.—The patient was suffering great pain, intensified on the slightest movement. She was much emaciated; abdominal walls exceedingly thin. A tumor was distinctly seen and felt in the upper adomen. On palpation the mass was hard. Was unable to take nourishment, and there were constant unsuccessful efforts at vomiting. The diagnosis of probable cancer was made and she died 10 or 12 days after this examination from exhaustion.

Autopsy.—An autopsy was made 40 hours after death and two masses of hair were found in the stomach, the combined weight being 16 ounces. There were two deep ulcers in the stomach which were nearly perforated. The specimens are now in the Pathologic Museum of the College of Physicians and Surgeons, New York.

It would seem, so far as I can learn, that in only two of the cases was the identity of the tumor properly recognized before operation: 1, J. Knowsley Thornton's, in whose patient hair was found in the evacuations, and together with the previous habits of the patient, led up to a correct diagnosis: 2, Stelzner[11] gives the credit for a correct diagnosis to his knowledge of Schöenborn's case In the other cases the diagnosis was cleared up on the operating table or postmortem.

The differentiation between a foreign body of this nature in the stomach and malignant disease should not be particularly difficult if one would take the trouble to ascertain a careful history. The early age at which this occurs; the slow growth of the tumor; the good health of the patient, independent of a mass which can be seen and felt; the absence of pain in manipulation and its physical characteristics are usually sufficient to settle the question. Femick of London reports a case in which very obstinate dyspepsia occurred in a young lady who was bald on both sides of her head from constant pulling and swallowing of her hair. Cessation of the practice was followed by gradual improvement. He suggests the importance of careful inquiry regarding the habits and occupation of young adults whenever a painless tumor is found in the stomach or intestines, and to bear in mind the possibility of a concretion. The tendency to evade questions and throw one off the track regarding the vicious habits must be carefully borne in mind.[12]

10. Trans. New York State Med. Assn., 1886.
11. Centrbl. f. Chir., 1896, xxxi.
12. The following are additional references to hair tumors:
d'Hautville (M.): Jour. Méd. Chir., Paris, 1813. Hair tumor found at autopsy.
Ritchie: Edin. Monthly Jour., 1849, ix. Female, aged 21; hair tumor found at autopsy; weight, 21 oz.
Pollock: Proc. Path. Soc., London, 1852. Girl died at 18; hair mass found in stomach and duodenum.
May, Jr., (G.): Trans. Chir. Soc., London, 1855. Hair tumor found at autopsy.
Gull (W.): Trans. Chir. Soc., London, 1871.
Swain: Lancet, April, 1895. Successful gastrostomy: diagnosis cleared up at operation.
Schulten: Centrbl. f. Chir., 1896, iii. Successful gastrostomy; diagnosis made at operation.
Allen (W. L.): THE JOURNAL A. M. A., Feb. 15, 1896. Exploratory laparotomy; hair ball successfully removed.
Schopf: Wien. med. Bl., 1900, also Med. Record, April 21, 1900. Successful operation, at which time diagnosis was made.

Scrofulodermata.—N. E. Aronstam, in *Central States Medical Monitor*, states that scrofulodermata are very difficult to cure. It would seem that at times a cure may be apparently effected, when it breaks out again in renewed vehemence. Especially is this the case in scrofulous or tuberculous glands of the neck. If external applications and the internal administration of cod-liver oil and iron iodid does not avail, we must have recourse to curettement of the glands with subsequent cauterization. Their total extirpation should not be attempted, for fear of dissemination of the tuberculous process constitutionally and the subsequent infection of more vital organs.

POLIOENCEPHALITIS SUPERIOR;

ITS CAUSATION, CLINICAL COURSE AND TERMINATION, WITH A REPORT OF SIX CASES.*

WARD A. HOLDEN, M.D., AND JOSEPH COLLINS, M.D.
NEW YORK.

Inflammation of the gray matter, the parenchyma, as it were, of the central nervous system constitutes the anatomical basis of some of the most sharply defined clinical pictures that physicians encounter. For instance, when it involves the anterior horns of the spinal cord the symptoms that result are few and are very easily interpreted. The same may be said of the symptoms that follow involvement of the gray matter of the oblongata, although the clinical picture may not be so simple because of the great variety of functional endowment which this small part of the central nervous system has.

Many of the diseases dependent on inflammation or other acute pathologic process in the gray matter of the central nervous system have had a suitable place in medical literature for a very long time. Others, such as acute hemorrhagic encephalitis, are recent additions, and much still remains to be learned concerning their causation, course and termination. The disease to which we desire to make a contribution, viz., that known as polioencephalitis superior (inferior ophthalmoplegia, or superior bulbar paralysis,) has been recognized only during the past twenty-five years, having been first described by Wernicke in 1881. He based the description and the successful endeavor to establish the disease as a clinical entity on three cases in which, after death, a termination quickly reached, acute hemorrhagic and inflammatory destruction was found in the gray matter around the third ventricle. The symptoms which these patients presented were chiefly ocular palsies, staggering gait, optic neuritis and an associated delirium, with agitation resembling that of delirium tremens. As each one of the patients was alcoholic, Wernicke stated that alcoholism was the most potent factor in the cause of the disease, but he did not attempt to maintain that it was the only cause. He was also impressed with the rapidity with which the disease pursued its course and reached a fatal termination.

In consequence of Wernicke's teaching the dependence of the disease on alcoholic intoxication and its fatal termination were generally accepted by the profession. That the disease might occur in two or three stages was demonstrated by the cases recorded by Uhthoff, Salomonsohn, Wolfe and others, while the cases reported by Thompson, Werner, Boedecker and Herrnheiser showed that it is not necessarily fatal.

It is now generally believed that the morbid condition constituting the anatomic basis of the disease is not unlike that constituting the pathologic process in various other inflammations of the gray matter throughout the central nervous system. In other words, the anatomic basis of acute, hemorrhagic, non-purulent encephalitis may be practically similar to that of acute superior polioencephalitis, and that the different course and termination of the latter is conditioned particularly by the location of the disease and by the proximity of important structures which may become secondarily disordered, as well as by structural changes in remote parts of the body, brought about by the protracted indulgence in the use of the substance which was the most potent

* A preliminary report on some of these cases was read before the American Ophthalmological Society, June, 1906.

etiologic factor, viz., alcohol. The picture of the pathologic process that one has in mind when the diagnosis of acute hemorrhagic encephalitis or acute bulbar or spinal poliomyelitis is made will adequately suffice for the pathologic process in acute polioencephalitis superior

This is an important point to keep in mind, because it simplifies the recognition of the disease and it facilitates a grasp of its symptoms and of its course. When the inflammation consisting of superior polioencephalitis confines itself narrowly to the gray matter of the third ventricle the symptoms are few and distinctive, as they are in anterior poliomyelitis, and they can scarcely be mistaken from those dependent upon any other disease. It is only when the inflammatory process extends beyond the aqueduct of Sylvius to the fourth ventricle, as it sometimes does, that the clinical picture becomes more complicated. In some instances it extends through the pons, the cerebellar peduncles and the basal ganglia in a most irregular way, and in such cases the resulting symptoms are so disparate that a satisfactory diagnosis can scarcely be made.

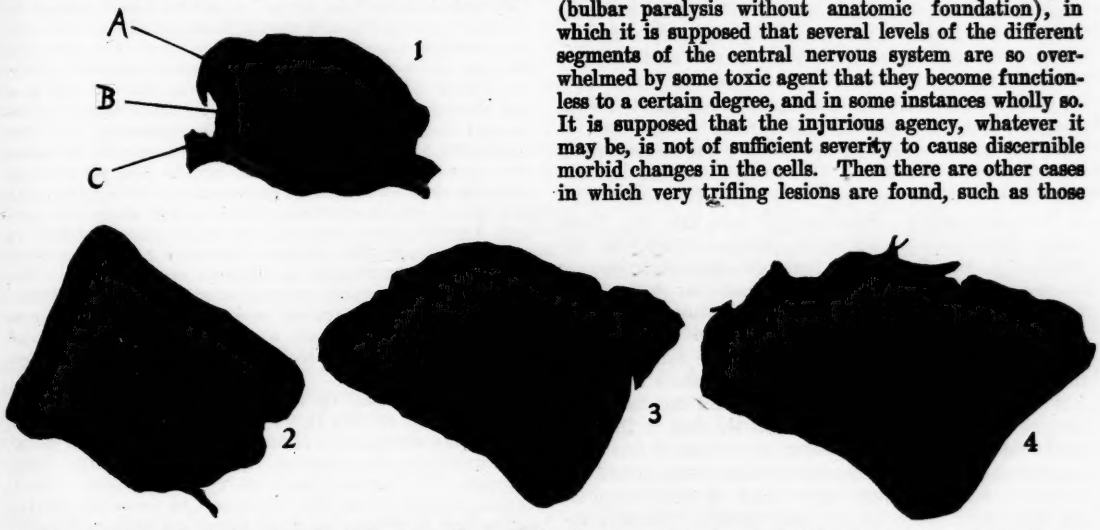

Fig. 1.—Photographs (by Dr. C. B. Dunlap), representing vertical sections through the midbrain and further back. 1. Midbrain cut 4 mm. posterior to the exit of the fourth nerves, seen from behind, 2, 3, and 4. Sections further back, all four showing large hemorrhages. The midbrain shown in 1 was divided by horizontal sections into three blocks, A, B, and C, which are represented as seen from above in the diagram below.

Polioencephalitis superior has been studied very carefully both from a clinical and from a pathologic point of view. The most important contributions that have been made to the clinical side of the disease are, first, that the levator palpebræ superioris is frequently affected to cause partial or complete ptosis (in Wernicke's case ptosis was absent), and that mild forms of the disease, lasting but a brief time and terminating in partial or complete recovery, are not at all rare events. We will be able to show in this communication that it is probable that such occurrences are much commoner than is suspected. Physicians often encounter such cases without satisfactorily interpreting them, and although they suspect them to be cases of superior polioencephalitis, when complete recovery results they doubt their diagnosis and the cases go unrecorded.

In regard to the etiologic and pathologic contributions to our knowledge of the disease, the most important are, first, that the same causes that are responsible for inflammation of the gray matter in other parts of the central nervous system are responsible for this disease. Acute infections, such as influenza, pneumonia and diphtheria, have all been accused of being the cause of the disease and a very strong case made out against them. It is not only infections, however, in whose wake it follows, for cases have been reported which seemed to show that lead, oxid of carbon, sulphuric acid, etc., were responsible factors.

Study of the central nervous system of many of these cases in which a postmortem was held has shown that in a number of them the structural changes are slight and entirely out of proportion to the severity of the symptoms that existed. Indeed, in some instances no lesion adequate to account for the symptoms or the fatal termination of the disease was found. These cases are looked on as analogues of asthenic bulbar paralysis (bulbar paralysis without anatomic foundation), in which it is supposed that several levels of the different segments of the central nervous system are so overwhelmed by some toxic agent that they become functionless to a certain degree, and in some instances wholly so. It is supposed that the injurious agency, whatever it may be, is not of sufficient severity to cause discernible morbid changes in the cells. Then there are other cases in which very trifling lesions are found, such as those

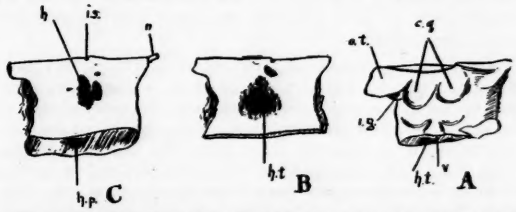

Fig. 2.—Diagrams of the three blocks into which the midbrain was divided, seen from above. A. Upper block: c. q., anterior corpora quadrigemina; v., fourth ventricle; o. t., left optic thalamus; i. g., left internal corpus geniculatum; h. t., hemorrhage in the tegmentum (appearing also in block B). C, lower block; i. s., interpeduncular space; n., right third nerve; b., hemorrhages continuous with those shown in block B, but 3 mm. deeper; h. p., hemorrhage in the pons.

reported by Patrick,[1] which he interprets as conditions midway between inflammatory infections of the central gray matter and asthenic bulbar paralysis.

The typical clinical manifestations of acute polioencephalitis superior fall into three distinct groups: those referable to the eyes, the mental disturbances, and the ataxia of gait and speech. The symptoms usually develop slowly, preceded by vertigo, headache, diplopia

1. Jour. of Nerv. and Ment. Dis., 1897.

and sleeplessness, although they may come most abruptly, the eye-muscle paralysis being very sudden. The ophthalmoplegia, usually spoken of as exterior because it affects only the extrinsic muscles of the eye, may, however, exceptionally be manifest by paralysis of the ciliary muscle and the sphincter of the iris. In the severe cases ophthalmoscopic examination reveals an optic neuritis, the paralysis of the external eye muscles, the frequent partial ptosis, and the peculiar whimpering, pathetic facial expression which the patient develops, constituting a very typical clinical picture. The mental symptoms are usually those of an active delirium, resembling that of alcoholism, and likewise the ataxia of speech and of gait is not unlike that of the acute inebriation. Occasionally the mental symptoms are quite like those of Korsakow's syndrome, with disorientation, spurious reminiscence, active fabrication, particularly following suggestion, and easily provoked mental confusion. This feature of these cases has recently been commented on by a number of writers.[2]

The cases that we report herewith are illustrative both in their clinical histories and in the findings of the necropsy of one of them of the various points that we have mentioned regarding the etiology and clinical manifestations of the disease. Our cases show that the disease terminates in recovery much more frequently than is generally taught. Spiehlmeyer[3] says that only those cases which have shown three cardinal symptoms, including grave affection of the sensorium, delirium or somnolence, should be included, and our cases show these symptoms. He maintains that the majority of patients that are classified as recovered keep certain mental symptoms, which he calls chronic delirium, and this should make us hesitate to classify them as cured. But our negro woman, for instance, did not have any chronic delirium during the months she was in the hospital under the constant observation of one of us. Her case we regard as an important contribution to the literature, because it shows that cases of polioencephalitis developing from alcohol may recover. In this respect it corroborates Boedeker,[4] who reports the case of a university professor who had a typical attack of polioencephalitis superior due to the intemperate use of alcohol, who made a complete recovery and resumed his professional duties.

CASE 1.—In the winter of 1904 one of us (W. A. H.) saw, with Dr. Alexander Lambert, a man of 28, weakened by alcoholic excesses, who was attacked suddenly by great ataxia of the legs, a low, muttering delirium, squint, and a gradual increasing ptosis on each side. Ten days after the onset of the attack there was incomplete ptosis on each side and an inability to turn the eyes more than 1 cm. in any direction. The pupils, however, were of medium size and responsive, and accommodation was preserved. The optic discs were slightly blurred. Three days later he died. This fatal case of bilateral ophthalmoplegia externa, with ataxia of the legs and delirium, seemed to be a typical case of acute alcoholic polioencephalitis superior, as described by Wernicke, which oculists recognize as the condition described by von Graefe in 1856, of complete paralysis of all the extrinsic muscles of each eye, with preserved function of the intrinsic muscles—a condition whose cause always remained inexplicable to von Graefe, for at the autopsy made on one of his patients the expected basal tumor was not found.

CASE 2.—M. J., a negress, aged 45, with evidence of late syphilis and a record of wood-alcohol coma four years before, with a transitory left paralytic squint, was admitted to the New York Hospital, Sept. 25, 1905, in the service of Dr. Lewis A. Conner. Two days before she felt queer, and her legs became so weak that she could not stand. She had diplopia, and she talked in an excited and rambling manner. There was no vertigo or headache. The vascular tension was high and the arteries were hard. Ten days after the onset of the attack one of us (W. A. H.) found that she had complete loss of mobility inward in each eye, slight limitation of mobility outward in each eye, and excessive vertical nystagmus-like twitching whenever the eyes were directed up or down. There was no ptosis and the pupils were responsive to light, though slightly narrow Accommodation, interior of the eyes and field were normal. There was no disturbance of sensation, no facial paralysis, no bulbar symptoms, such as difficulty in speech or deglutition. The knee-jerks were exaggerated and there was a continued evening temperature of about 100 degrees F.

Two weeks after the first examination and twenty-four days after the onset of the attack, the condition had improved so that each eye could be turned in half-way to the caruncle, mobility outward was still slightly limited, and there was still pronounced nystagmus in looking up or down. The fever and delirium continued. The ocular conditions improved slowly, and two months after the onset the mobility of the eyes was normal again. The gait gradually lost its ataxic character and the mental condition steadily improved. She was transferred to the service of one of us at the City Hospital, where she remained upward of six months that her recovery might be attested. Repeated examination failed to show any physical or mental symptoms. She worked about the ward until April 10, 1906, when she had what was apparently an apoplectic attack. The necropsy showed a hemorrhage from rupture of an aneurism of one anterior cerebral artery. The aneurism, which probably existed a considerable length of time, produced no symptoms so far as we were able to make out. The examination of the brain was made under the direction of Dr. C. B. Dunlap at the Pathological Institute of the New York State Hospitals.

Gross Examination.—On both frontal poles the pia is hemorrhagic, and at the left tip the cortex also over a small area is dark gray and specked with fine hemorrhages. The pia of the convexity is not otherwise remarkable, except for slight milkiness. The surface vessels are filled with blood without marked injection of the finer branches. An occasional atheromatous spot is visible. No gross lesions are seen on the convexity, except those mentioned on the frontal poles. The basal vessels are very much thickened and show decided atheromatous changes. A small ruptured aneurismal dilatation is found at the junction of the anterior cerebral and the anterior communicating arteries.

The pons is moderately widened and somewhat flattened. The third nerves are fairly preserved. The second nerves are of fair size, and nothing unusual was noticed in any of the others that were present.

The brain was cut by dividing the stem just in front of the pons, by a cut which passed through both pulvinars. Nothing remarkable was seen on this cut. The midbrain was then removed for imbedding by a second cut about 4 mm. behind the exit of the fourth nerves. This showed three small hemorrhages in the tegmentum, and one in the pons (Fig. 1, 1). The midbrain was then split horizontally for imbedding, as shown in the illustration, and the horizontal sections presented extensive tegmental hemorrhages at the sites indicated in the diagrams. Blocks A and B were imbedded for general histologic stains. Block C was put into Müller's fluid for study of the nerve roots. Slices at intervals of 4 mm. were made backward from the second cut shown in the illustrations, and the first two showed hemorrhages in the tegmentum or pons similar to those described. The last cut (through the auditory facial abducens segment) passed behind the hemorrhagic area (Fig. 1, 4).

Microscopic Examination.—All the hemorrhages appear slightly larger in the photographs than in the actual specimens owing to discoloration of tissues about them. They are firm, dark, do not crumble when cut, and are manifestly recent.

2. Raimann: Neurolog. Centribl., 1902, p. 976, and Boedeker, Arch. f. Psychol., vol. xl.
3. Centribl. f. Nervenheilk. u. Psychiatrie, November, 1904.
4. Arch. f. Psychiatrie, vol. xl.

Block C was cut from below up in serial sections 35-45 microns thick, which were stained by the Weigert-Pal method. The lower sections contain both third nerves cut transversely. Here and there one or two bundles are seen to have taken the medullary stain imperfectly in one nerve or the other, while preceding and following sections are seen to be stained perfectly. Further up the third nerve fibers are followed in their course through the midbrain. Here the bundles are uniformly stained and are alike on the two sides. There is no evidence of medullary degeneration. Among these intracerebral bundles on each side are some overfilled veins, and posterior to the groups of bundles are scattered fresh hemorrhages, the corpuscles of which have not yet broken down.

Block B was cut from above down. A large and a small hemorrhage are seen on its upper surface. In sections near the surface, stained by Van Gieson's method, hemorrhages are seen corresponding to the gross hemorrhages shown in the diagram. The smaller hemorrhage above lies between the two third nerves, pushing them apart and compressing them laterally. The arteries in and about the nerves have greatly thickened walls, as, in fact, have all the arteries throughout the midbrain. In the nerves and near the nuclear region of the third nerves no areas of softening are found, though some areas of softening with many fat-carrying cells, apparently old, are found scattered sparsely through the midbrain.

Block A was cut from above. Following the nerve fibers upward to the nuclei of the third nerves, small fresh hemorrhages, chiefly near the median line, lie scattered among the groups of ganglion cells. The cells themselves have central nuclei and appear normal, except for considerable pigmentation. No evidences of disseminate sclerosis were found. Dr. Dunlap has seen a number of times fresh midbrain hemorrhages in cases of brain tumor, and it is possible that the hemorrhage at the base in this case by compression of the midbrain against the tentorium produced the fresh hemorrhages in the midbrain.

The clinical symptoms of polioencephalitis superior cleared up completely in this case and, correspondingly, we found no evidences of old degenerative change in the third nerves or in their nuclei of origin. There was recovery both in a clinical and in an anatomic sense, and the hemorrhages found in the midbrain that occurred just before death suggest the lesion of eight months before, which produced the paralysis of the branches of the third nerves supplying the extrinsic muscles of the eyes.

CASE 3.—M. H., an unmarried woman, aged 28, servant, of Irish birth, was first seen Dec. 15, 1905. She was one of twelve children; otherwise healthy; her mother had had no miscarriages, and she had been well except for an attack of measles, up to the time when menstruation began. Since then she has been weak. At that time, about the age of 15, her upper lids began to droop and the eyeballs became immobile. At about the age of 25 she began to experience difficulty in swallowing and in talking. She now speaks in a whisper, is extremely diffident, unresponsive and avoids people. Her replies are contradictory, and there is such mental confusion that a clear account of her illness can not be obtained.

There is almost complete bilateral ptosis and almost complete immobility of each eye, but no anesthesia of the face. The pupils are of medium size, slightly unequal and irregular, and the light and convergence reflexes are very sluggish. The left knee-jerk is diminished. The fields and the optic discs are normal, and there is sufficient astigmatism to account for a vision of 20/50 and Jaeger 2 each.

This, then, is a case of polioencephalitis superior stationary for thirteen years, to which was added three years ago a polioencephalitis inferior, causing difficulty in speech and deglutition. There is almost complete paralysis of all the extrinsic muscles of the eye and glosso-pharyngeal disturbances, while the fifth and seventh nerves are not involved. No etiologic factor could be discovered.

CASE 4.—M. A., Hebrew, tailor, aged 27, was referred to the Vanderbilt Clinic March 15, 1906, by Dr. Arnold Knapp. He was not an alcoholic; he had healthy children and bore no signs of syphilis, but he was emaciated and anemic, and his circulation was poor. He had previously been well, except for headaches coming on toward evening, from which he had suffered for ten years—a condition frequent enough among persons of his occupation with refractive errors. His memory is poor, his mind confused and sluggish. He had seen double for about a week. Mobility inward is wanting in each eye; mobility outward is wanting in the right and limited in the left eye, being accomplished here with nystagmus-like twitching. On the right side there is also slight limitation of mobility upward. There is no ptosis. The pupils are of medium size, round and promptly responsive. Corrected vision is: R. 20/20; L. 20/30; accommodation good. The optic discs are normal. Shortly after the onset of the diplopia he experienced difficulty in talking and in swallowing. On the right side there is a trace of facial paralysis. There is no disturbance of sensation. The knee-jerks are exaggerated and there is some weakness of the legs, but no Romberg. He was placed on mixed treatment. The condition changed slightly from time to time, without any particular improvement. After a month he was put on tonic treatment.

May 10, 1906, his mental condition was much improved. There was no facial paralysis, no difficulty in swallowing, and the knee-jerks were normal. In the right eye there was normal mobility inward and slightly reduced mobility upward, downward and outward. Feb. 27, 1907: After his visit of May 10, 1906, he went to the country for a month and recovered completely and continued at his work in good health. March 28, 1907: He says that four days ago he felt dizzy and fell to the floor. Since then there has been staggering gait. Arterial tension is increased. Hemoglobin, 85 per cent.; urine normal; eyes normal. June 20, 1907: He went to the country and the vertigo and ataxia soon passed off. Eyes were normal; no tremor; reflexes not increased; arterial tension high; no symptoms of disseminated sclerosis.

This, then, was a case of subacute polioencephalitis superior and inferior, with normal pupils and without ptosis, in which recovery was complete. Seven months later there was a transient attack of vertigo and ataxia. The only discoverable etiologic factor was arterial sclerosis and increased arterial tension.

CASE 5.—L. McC., woman, aged 36, machine operator, was referred to the Vanderbilt Clinic by Dr. Arnold Knapp, Dec. 14, 1905. She denied syphilis and alcoholism, had no arterial sclerosis, and appeared well nourished. She had previously been healthy, and recalled only a left facial paralysis twelve years before, from which she recovered in a week with electric treatment. Four weeks ago the upper lids began to droop and she saw double. Soon after there was difficulty in swallowing, and in talking. From the beginning she had been on mixed treatment, but there had been no improvement. When examined there was incomplete ptosis on each side and loss of mobility in each eye inward, upward and downward, with slight limitation of mobility outward, and marked nystagmus-like twitchings with efforts to turn either eye outward. There was no wheel rotation when an effort was made to look down, showing that the fourth nerves were affected. The pupils were medium size, slightly irregular and unequal. Light reaction was sluggish, and convergence reaction wanting. Fields and fundi were normal; vision for distance and near practically so.

There was no disturbance of sensibility; no tremor. The knee-jerks were exaggerated and there was some difficulty in walking, but no Romberg or Babinski symptoms. The patient talked in a rambling and silly manner, had no headache, and was singularly cheerful in regard to her condition. She was kept on mixed treatment for two weeks without any improvement and then passed from observation.

This, then, was a case of subacute polioencephalitis superior and inferior in which there were ptosis and diminished pupillary reaction, although there was no paralysis of the sphincter or ciliary muscle.

Oct. 2, 1906: Marked improvement. Had been treated with electricity. Slight nystagmus in all extreme directions of gaze. Left eye, slight limitation of mobility inward; no ptosis. Pupils 3.5 mm., round, responsive. No facial paralysis. Corrected vision normal. Knee-jerks exaggerated. Fields and fundi normal. No Romberg symptom; gait good. No symptoms of disseminated sclerosis.

CASE 6.—S. S., Hebrew, hat-frame maker, was referred from the nervous department of the Vanderbilt Clinic to the eye department, June 19, 1907. His father and mother were living and healthy, and he had four brothers and two sisters, all in good health. He had never had syphilis, was not alcoholic, and had had no recent illness.

The onset of the present attack was about May 25, 1907, when he vomited four or five times a day without preceding nausea and without reference to taking food. This vomiting ceased after a week. About that time, he says, although his memory is poor and his speech is somewhat rambling, he became dizzy when he walked, but was not conscious of seeing double. He found, then, that he could not turn the eyes to the right and that he had partially lost control of the muscles of the right half of the face.

When the eyes were examined the acuteness of vision, accommodation, pupillary reaction, fields, and interior were found to be normal. The right eye had lost its mobility inward and outward and could be moved upward and downward only with excessive nystagmoid twitchings. The left eye could not be turned inward, and its rotation outward, upward and downward was accomplished only with marked nystagmoid twitchings. There was no ptosis. The pupils were 4 mm. each in diameter, round, and promptly responsive to light and in convergence.

General physical examination revealed increased arterial tension with hardening of the vessels and accentuated second sound of the heart. There was marked ataxia of the legs causing great difficulty in walking, but there was no muscular weakness. The knee-jerks were increased, as were all the reflexes of the upper extremities and the abdominal and cremasteric reflexes. There was no ankle clonus or Babinski's symptom. The afternoon temperature was 99.2 F. There was paralysis of the right half of the face, all branches of the seventh nerve being involved. There was no difficulty with speech or deglutition. There were no anesthesias. The mental state was confused.

Sept. 17, 1907: The patient, who had not returned for treatment and had continued his work without interruption with one eye covered, came to the clinic for examination in response to a note. He stated that all of his symptoms had passed off within two weeks after the first examination made three months before. At present all the cranial nerves are normal. No reflexes are increased. There is no ataxia or diplopia, and he feels well. There is marked arterial sclerosis. There are no evidences of disseminated sclerosis.

This, then, was a case of acute polioencephalitis with mental confusion, ataxia, increased temperature and paresis of all the muscles supplied by the third nerves, except the levators of the upper lids, the sphincters of the irides and the muscles of accommodation. With this there was paresis of the external rectus on one side, and complete paralysis of the external rectus and all the muscles supplied by the facial nerve on the other side. The symptoms passed off entirely in five weeks without treatment.

These cases show the great variability of the clinical course of the disease, the first case ending fatally in a few days; the second case, a very typical example of the disease due to wood alcohol ending in recovery; the third, a most chronic one, having existed for at least seventeen years; the fifth and sixth cases ending in recovery, and the fourth case, one of subacute variety, ending in partial recovery. Case 2, the negress, had no symptoms of the aneurism until a few days before her death, when she complained of vertigo and fell. She had had syphilis, the common antecedent of intracranial aneurism, and to this the disease of the blood vessels was due.

The advisability of reporting the histories of patients who have external ophthalmoplegia, more or less transitory, terminating in recovery, in order that we may gain a wider knowledge of superior polioencephalitis and its clinical course, is obvious.

A REPORT OF ONE HUNDRED CONSECUTIVE PERINEAL PROSTATECTOMIES WITHOUT A DEATH.

WITH REMARKS ON THE GENERAL DECREASE IN THE MORTALITY OF PROSTATIC OPERATIONS IN RECENT YEARS.

HUGH H. YOUNG, M.D.
Associate Professor of Genitourinary Surgery, Johns Hopkins University.
BALTIMORE.

It was only a few years ago that prostatectomy was considered one of the dangerous operations in surgery, but in recent years remarkable advances have been made in the treatment of cases of prostatic hypertrophy.

Writing in 1900 Fuller said: "The mortality attached to prostatectomy at the hands of surgeons skilled in that particular is at the present time in the neighborhood of 15 per cent. to 18 per cent." Within four years, however, the mortality rate had been decidedly lessened and Watson[1] was able to collect from the literature 243 cases of suprapubic prostatectomy with 11.3 per cent. mortality; 530 cases of perineal prostatectomy with 6.2 per cent. mortality, and 1,086 cases treated by the Bottini operation with 6.3 per cent. mortality.

Escat[2] in 1904 collected 382 cases of perineal prostatectomy with a mortality of 11 per cent. and 164 cases of suprapubic prostatectomy with a mortality of 18 per cent., but in the same year Proust's[3] figures were practically the same as Watson's; 813 cases of perineal prostatectomy with a mortality of 7 per cent. and 244 cases of suprapubic prostatectomy with a mortality of 12 per cent.

Last year Tenney and Chase[4] were able to collect 716 cases of perineal prostatectomy with a mortality of 7.6 per cent. and 396 cases of suprapubic prostatectomy with a mortality of 9.8 per cent.

During 1906 there appeared an extensive report by Tuffier,[5] showing 1,192 cases of perineal prostatectomy with a mortality of 6.6 per cent.

The statistics of the Bottini operation and its improvement in recent years are best shown by the work of Freudenberg,[6] who, in 1907, reported 152 cases, with a mortality of 7 per cent., divided as follows:

Cases.	Good results.	Failure.	Deaths.	Per Cent.
1 to 50	38 (76 %)	6 = 12 %	6	12
51 to 100	44 (88 %)	3 = 6 %	3	6
101 to 152	47 (90.4 %)	3 = 5.8 %	2	3.8

The statistics of the mortality of the cases treated by systematic catheterization is given as follows:

	Cases.	Deaths	Per Cent. Mortality.
Rovsing	126	10	7.1
Casper	51	3	5.8
Watson	30	3	10

1. Annals of Surgery, 1904.
2. Annales des Malad. des Org. Genitourin., 1904, p. 1635.
3. Annales des Malad. des Org. Genitourin., 1904, p. 1697.
4. JOURNAL A. M. A., May 12, 1906.
5. Fifteenth International Congress of Medicine, 1906.
6. Freudenberg, Wiener Klinik, 1907

Watson collected 146 cases treated in a palliative way by incision and drainage, with 49 deaths, a mortality of 33 per cent.

In order to determine the progressive improvement of the mortality rate of suprapubic prostatectomy we can not do better than to quote from Freyer, whose excellent work and numerous contributions to the literature have brought him great renown and by far the greatest number of cases of prostatic hypertrophy for operation that any surgeon has ever had. Freyer's first report[7] was made in 1901, when he published a description of his first four cases of suprapubic prostatectomy. Since then numerous consecutive reports have been made by him, the last in the *British Medical Journal,* being March 9, 1907. During this period of six years Freyer has been able to improve his technic and simplify greatly the postoperative treatment, and it is interesting to see how his statistics have improved. With the exception of a few reports by operators with an experience of but a few cases, they represent the best that have been obtained by suprapubic prostatectomy, being much better than the mortality collected from the literature last year by Tenney and Chase, which showed a mortality of 9.8 per cent. Freyer's consecutive reports showed as follows:

In the first 45 cases there were 5 deaths, a mortality of 11 %.
In the first 110 cases there were 10 deaths, a mortality of 10 %.
In the first 170 cases there were 16 deaths, a mortality of 9.4 %.
In the first 203 cases there were 15 deaths, a mortality of 8 %.
In the first 322 cases there were 25 deaths, a mortality of 7.8 %.
In the last 119 cases there were 29 deaths, a mortality of 7.5 %.

The last report of 119 cases was made in the *British Medical Journal,* March 9, 1907. In one of his recent papers, in speaking of the fatal cases, Freyer gave the causes of death as follows:

Seven deaths from uremia, three to thirty-nine days after the operation.

Three from heart failure, six hours, three days and twelve days after operation.

One from shock, seven hours after operation.

Two from septicemia, thirteen and thirty-five days after the operation.

One from acute bronchitis, thirty hours after operation.

One from pulmonary embolism on the fifth day.

One from pneumonia on the seventh day.

One from heat stroke on the tenth day.

Two from liver disease, fifteen and nineteen days after operation.

Two from mania after the wounds had healed.

One from exhaustion thirty-three days after operation.

In discussing these cases Freyer said as follows: "It will be observed that in *not more than one-half* of the number can the fatal result be attributed directly to the operation, the remaining deaths being due to diseases incident to old age. This operation is comparable to none other in surgery owing to the advanced age to which it is necessarily confined, and the broken down constitutions of the patients from long suffering, and we must not lose sight of the fact that during the period of after-treatment and convalescence men of this age are peculiarly liable to be carried off suddenly by disease entirely unconnected with the operation."

If we analyze further these 22 cases we find that two deaths occurred within the first twenty-four hours, one on the second day, two on the thrd day, two on the fifth and seventh days respectively, or seven in all during the first week. Three occurred during the second, two during the third, and two during the fifth week. The exact time of death was not noted in eight cases.

7. British Med. Jour., March 20, 1901.

There is no question that Freyer is correct in saying that many of the deaths which occur after prostatectomy are not due to the operation itself. This is borne out by my experience with perineal prostatectomy.

I have now had in all seven deaths after the operation of perineal prostatectomy as follows:

1. On the eighth day from severe secondary hemorrhage from the bladder, for which a suprapubic operation was done and an extensive ulcer of the bladder discovered. The bladder was packed, but the patient died of shock immediately after.

2. One on the fourteenth day from uremia, autopsy showing double pyonephrosis.

3. One on the thirteenth day from pulmonary embolism while patient was at stool, during which he strained very severely. Autopsy.

4. One on the twenty-first day from hypostatic congestion of the lungs and possibly uremia. No autopsy.

5. One on the twenty-fourth day from pneumonia, a man aged 87, who had convalesced well for three weeks after the operation. Pneumonia came on during the twenty-first day when patient was almost ready to go home.

6. One on the twenty-seventh day from pyonephrosis and uremia, patient having been septic and very uremic before operation, which was done to supply drainage as a last resort.

7. One on the thirty-first day from hypostatic congestion of the lungs. A very weak man, 81 years of age.

In reviewing these cases it will be noted that there was not a death during the first week after the operation; in fact, there were only three cases of shock after the operation, and in all of these spinal anesthesia had been used. Three patients died during the second week (two during the latter part), one during the third week, two during the fourth week and one during the fifth week.

In figuring my mortality rate I have included every death which occurred during the stay of the patients in the hospital, and none were permitted to go home who were not in good condition. No patients were sent home to die. But no sane man can hold that all of these seven deaths above were directly due to the operation, and I believe that in not more than two of the cases can the operation be considered responsible for the death of the patient.

It has been my practice to operate on almost every case regardless of the gravity of the complications, renal or otherwise, which were present, if the patient did not improve on preliminary treatment, catheter drainage, etc. On this account my list of fatalities was increased by three cases in three months, these patients being in desperate condition before the operation. Since then none of the patients have been in quite so bad a shape and there have been no deaths following the operation in 102 cases, now covering a period of almost two and one-half years. I believe, however, that the improvement in the mortality rate has been largely due to simplification of the technic and the postoperative treatment.

My first report[8] on the operation, which I called "conservative perineal prostatectomy," was made in April, 1903. The following table will show the mortality rate up to the present time:

In the first 20 cases there were 0 deaths, a mortality of 0 %.
In the first 50 cases there were 2 deaths, a mortality of 4 %.
In the first 185 cases there were 7 deaths, a mortality of 3.7 %.
In the first 229 cases there were 7 deaths, a mortality of 3 %.
In the last 103 cases there were 0 deaths, a mortality of 0 %.

A short review of the last 103 consecutive cases in which there have been no fatalities may be of interest

8. Young: THE JOURNAL A. M. A., Oct. 4, 1903.

in studying the gravity of the operation of perineal prostatectomy. The ages were as follows:

Under 50 years of age	6
Between 50 and 59	20
Between 60 and 69	40
Between 70 and 74	18
Between 75 and 79	17
Over 80	2
Total	103

In ten of these cases vesical calculi were present and at least in 75 per cent. a severe vesical infection. Three had pyonephrosis. Eight patients were very sick when the operation was performed, and two had apoplexy. In six cases the bladder was greatly distended, showing over 1,000 c.c. residual urine. Many had slight symptoms of poor renal function, and six were markedly uremic. Arteriosclerosis was common, but in five cases it was severe. In nine cases cardiac murmurs of marked degree were present, and in eight cases the heart was enlarged. Severe pulmonary emphysema was present in two cases. In one case pulmonary tuberculosis was present, both lungs being markedly involved. A vesical calculus was present in this case and caused so much pain that operative relief was necessary. The prostate was removed and then the stone was extracted. The convalescence was extremely satisfactory, the patient leaving the hospital in less than three weeks.

The operation was performed within a few days after seeing the patient in nearly all cases, and I have now come to the conclusion that preliminary treatment is rarely helpful. Renal infection is best treated by good vesical drainage (besides the usual internal remedies), and this is best obtained after removal of the prostate through the perineum. Even cases in which the bladder is greatly distended by chronic residual urine of large amount—1,000 c.c. or more—do not usually require a protracted period of preliminary catheterization, but do well after immediate operation. In such cases every care should be taken to prevent renal suppression by the administration of large amounts of water by mouth before the operation, and by infusion, and enemata afterward if necessary.

In several cases the patient was so sick that physicians assured the family that death would surely result if operation were undertaken. I mention these facts to show that there has been no selection of cases. No patient has been sent away because he was too weak, and I do not remember having relegated a single patient to the habitual use of a catheter during the past two years.

Since the list of cases without a fatality has approached the hundred mark, several very decrepit old men, varying between 75 and 82 years of age, and with alarming cardiac and renal complications, have applied for treatment, and it was difficult indeed not to decide that prostatectomy was contraindicated. Among the last ten patients in this list of 103 cases there were several in whom my associates (who had become interested in the outcome of the 100 cases) predicted that they could not stand the operation, but I am glad to report that all of these 103 patients have gone home.

Among these 103 cases there has not been a single recto-urethral fistula, and only seven cases of epididymitis, all of which resolved without operative treatment. The perineal fistulas have healed generally within two weeks and several as early as seven or eight days, and I know of but three which still persist. All of these are minute, pin-point openings, through which a drop or two of urine escapes during urination; at other times they are perfectly dry, and the fistula causes no discomfort. Incontinence of urine is present in but two cases, in both of which the patients are suffering from locomotor ataxia. A slight weakness of the sphincter has persisted for a time in several cases, but has usually completely disappeared within two or three months. Generally a necessity of voiding quickly when the desire to urinate comes on is the chief complaint.

I am not prepared to give an accurate tabulation of the exact status of all of these patients now, but I can say that I know that all have been relieved by the operation, that not a single case has to use a catheter, and I believe that almost all of them can empty the bladder completely. A careful analytical study of 145 cases which I published last year[9] showed only four cases out of 145, in which the obstruction to urination had not been completely removed. I believe, however, that all such results are the fault of the operator and not the operation; that if the work is thoroughly and carefully done there will never be any failure to remove the obstruction completely. I heartily agree with Mr. Freyer, who says that he believes that incurable atony of the bladder muscle is practically never encountered. If the obstruction is completely removed the bladder will empty itself in almost every case, barring perhaps a few cases in which great over-distension of the bladder was present before operation, in which cases a small residual urine may persist. This may be due, however, to vesical sacculation.

As to the preservation of the sexual powers, I may again refer to the paper above mentioned, which showed that in the large per cent. of cases the sexual powers were not interfered with, and that in five cases in which erections have been absent for a long period before operation there was complete restoration of the sexual powers after removal of the prostatic lobes. This I believe was probably due to the removal of pressure upon the veru montanum and ejaculatory ducts.

The fact that the ejaculatory ducts, the vesical sphincter and the external sphincter can be preserved intact in almost every case has been demonstrated now in over 200 cases. A careful examination of the specimens removed has shown no evidence of the presence of an ejaculatory duct in more than two or three cases, and in all of these the operator was conscious of cutting too close to the well known location of these ducts. So confident am I of the preservation of these structures that I do not hesitate to perform a similar operation on cases of severe chronic prostatitis.

The improvement in the mortality rate in recent years and the absence of a fatality in the last 103 cases has been due not only to the simplification of the technic, the use of instruments suited to the diameters of this region, and the careful determination of the exact conditions present by previous cystoscopic examination, but also a great simplification of the postoperative treatment. In the early cases the gauze and tube drains were not removed for several days, and the patient remained in bed for a week or more. As a result perineal fistulas were slow in healing, and the patient often was considerably weakened by the confinement. During the past two years it has been the rule to remove the gauze packs on the morning after the operation and the tubes in the afternoon, and on the next day the patient has usually been placed in a wheel chair and carried out of doors. This has been the rule with even quite sick patients, and it is remarkable how much they have benefited by being up

9. Johns Hopkins Hospital Reports, 1906, vol. xiv.

and out of doors. Almost all patients are encouraged to walk within a few days. This seems to have no bad effect on the wound, which has healed well in all but three cases, and better drainage is afforded by the erect posture. The absence of any case of sepsis following the operation shows the gerat advantage of the splendid drainage given by the perineal route. The fact, too, that the cavity left by the removal of the prostatic lobes is extravesical is probably also of great advantage. The absence of any deaths during the first week after the operation shows the advantage of being able to control hemorrhage by visual inspection during the operation and by carefully placing gauze packs in the extravesical cavities left by the enucleation of the lobes. There were no deaths from shock, or heart failure.

Since perineal prostatectomy has assumed a place as one of the benign surgical operations it has become necessary to extend its usage to other prostatic affections which have hitherto been considered beyond the realm of surgery. Besides the ordinary adenomatous enlargement which is easily enucleable by either the perineal or suprapubic route, we have to deal with the small sclerotic variety of enlargement, cancer and severe chronic prostatitis, which often assumes a hypertrophic obstructive type in even young men. For these I believe the perineal route is alone well adapted. I have now operated on 17 cases of severe chronic prostatitis and have experienced little difficulty in performing a conservative prostatectomy. A number of these patients had some obstruction to urination and three young men, about thirty years of age, were leading catheter lives. In other cases the patients suffered greatly from painful symptoms. The operative results have been extremely gratifying, in many cases the relief afforded has been immediate and there has been no impairment of sexual powers. I feel sure that we are going to come more and more to the adoption of surgical measures for cases of this type.

The general recognition of the increasing frequency of carcinoma of the prostate renders it imperative that early diagnosis and radical operations be made. During the past four years in my practice there has appeared one case of cancer to every four cases of hypertrophy of the prostate (68 cases of cancer to 250 cases of hypertrophy). Unfortunately most cases arrived too late to attempt a radical operation, but in six cases the disease seemed sufficiently early to warrant an attempt at radical cure and two of these patients are apparently well and free from recurrence, now almost three years after the operation. A study of 87 cases of carcinoma of the prostate shows that the primary symptoms are often not urinary in character, but in the form of neuralgias of the pelvic region or thighs or back. Many a case of supposed sciatica, lumbago or neuritis is in reality carcinoma of the prostate, and if rectal examination reveals an induration of the gland an exploratory perineal operation should be performed. When the posterior surface of the prostate is exposed the diagnosis can usually be made by palpation, but incisions into the lateral lobes and microscopic examination of frozen sections may be necessary. If the tissues are benign the usual conservative prostatectomy can be performed, but if malignant the prostate with its capsule and urethra, the seminal vesicles, anterior two-thirds of the the trigone and a cuff of the vesical neck should be removed in one piece. This can be accomplished with ease and no difficulty is experienced in anastomosing the bladder with the membranous urethra. In my cases the wound has generally healed well and no fistulas have persisted, and I am thoroughly convinced that with early diagnoses many radical cures can be obtained. If general practitioners can only be persuaded to make routine examination of the prostate, especially in every case in which the complaint is below the diaphragm, and to be suspicious of marked induration of the prostate in men over 50 years of age, I feel sure many early diagnoses will be made.

Prostatectomy is no longer to be considered an operation of necessity, a last resort. The fact that it can be performed with practically no danger and with perfect functional results should lead to its earlier adoption not only in cases of hypertrophy but of severe chronic inflammation and cancer of the prostate.

Note: At the time of correcting the proof, Jan. 16, 1908, I am able to add: I have now had 112 consecutive perineal prostatectomies without a death, and 238 with 7 deaths, a mortality of 2.9 per cent.

EXPERIMENTS ON SUBCONSCIOUS IDEAS.*

E. W. SCRIPTURE, PH.D., M.D.

NEW YORK CITY.

While at the University of Leipsic many years ago I made an investigation of the association of ideas, in the midst of which I stumbled on the fact that subconscious ideas influenced the associations; these were the first experiments on "mediate association." Professor Aschaffenberg, of Heidelberg, afterward extended the experiments to insane persons. Lately Dr. Jung, of the University of Zurich, has developed a regular system of discovering the subconscious ideas that cause hysteria and are present in other forms of insanity. Not long ago I spent six months with Jung and made experiments in cases of dementia præcox, of which I shall use some illustrations. Professor Peterson has also worked with Jung and has already published some highly interesting results. Further work is now going on in the Department of Neurology at Columbia. Jung's method was applied to criminals by Dr. Groos, of Prag, who was enabled thereby to detect consciousness of guilt.

Most of us are familiar with experiments on the "association of ideas." A word is called out by one person; another one hearing it tells the first other thing he thought of. For example, on hearing the word "hat" he may think of "head," or with the word "marriage" he may associate "funeral," or to "goose" he may respond with "loose." In every case there is or has been some connection between the two ideas; hats and heads naturally go together, marriages and funerals are both solemn occasions, "goose" and "loose" have similar sounds. The associations of ideas may be put into two classes. The first is that of association by meaning, or internal associations; for example, "hat—head," and "marriage—funeral." The other class includes associations by similarities of form or of sound, such as "goose—loose," or "hat—bat," or "marriage—carriage." These we will call external associations. I believe we ought to add still another class to include cases where the patient does not associate by external form and yet only half grasps the meaning. Such associations as "paper—to use," or "book—to have" occur constantly under certain circumstances. Let us call these "indis-

* Read before the New York Neurological Society, October 8, 1907.

tinct associations." Finally, we can conveniently put the last two classes together as "superficial" in contrast to the associations by meaning, which might be called "deep" ones. Distraction of attention tends to produce superficial associations.

The association of ideas takes time; distraction of attention makes the time longer. It also makes us liable to forget what we have said.

Suppose, now, to "flax" the person experimented on associates "candle;" there is no direct connection between the two, but "flax" and "wax" have similar sounds and "wax—candle" is a natural association. The association of "flax—candle" was thus an indirect one through the word "wax" of which the person did not think consciously. The association "Caffir—breakfast" seems unexplainable until the intermediate unconscious link "coffee" is assumed. We thus have ideas that influence our associations, although they do not appear to the mind of the person experimented on. This leads us to ask: Can we get information concerning our subconscious life, its thoughts and emotions, by experimental methods?

Dr. Jung has devised a most brilliant method of doing this, which I will endeavor to illustrate to you. I have a set of twenty-five words printed on a blank, which I place on the table before me. I then explain to the subject or patient that I wish to test his mental activity, and that when I call out a word he is to say quickly what thing he thought of first. "For example," I say, "when I call out 'hand,' what did you first think of?" Often he replies, "I did not think of anything." Then I repeat the trial till he feels at ease and understands what he is to do. Sometimes he replies "hand," and says that he merely thought of a hand. But if you ask him "Whose hand?" you will find that he was thinking of somebody's hand, that is, a particular hand; you explain that in such a case he is to state what hand he thought of. Some patients will reply with whole sentences instead of a word; do not disturb them—this is a characteristic feature of certain diseases (e. g., epilepsy). Still other patients will try to define the words you call out; do not worry about it—this occurs regularly with imbeciles.

As soon as the patient feels at ease and answers readily I take a timer (stop watch) with split seconds (i. e., indicating fifths of a second) in the left hand and proceed to call off the words on the blank. As I call off "hat" I set the watch going; as the person answers I stop it. In this way the whole list of twenty-five words is run through (Jung uses a list of one hundred). Then I say, "We will go over the list again; answer just as before with the first thing you think of, but say the same thing if you can remember it."

The following is part of an actual record which I made in the Zurich Asylum on a case of dementia præcox:

SPECIMEN OF AN ASSOCIATION RECORD (DEMENTIA PRÆCOX).

Time in seconds; x indicates that the association was remembered; [ ] give the new association; I, II, indicate the complexes; the arrows indicate the persistence of the complex.

head	4.6	hair	x	
green	3.4	fields [grass]		I
water	3.6	to drink	x	
wool	4.4	knitting	x	
long	10.0	grass	x	I ↓
ship	6.6	sailing	x	↓
friendly	3.4	friend	x	
stupid	4.8	without sense [silly]		II ↓
paper	9.2	to—to use—paper to use [to write with]		↓
despise	11.2	to shun	x	II ↓
tooth	5.0	what—what you eat with.	x	↓
needle	3.4	to work with [to use]		↓

In such a record we look for associations that show one or more of three indications of distracted attention, namely: 1, an unusually long time; 2, forgetfulness; 3, superficiality. Unusually long times are found for "long," "ship," "stupid," "paper," "despise" and "tooth." Forgetfulness is seen for "green," "stupid," "paper" and "needle." Superficial associations, i. e., those where the person was evidently not thinking of the meaning, are found for "paper" and "needle."

After finishing the record I asked the person what she thought of for "green." She said that when she made the association she thought of a beloved house and garden in far-off England which she misses very much. Such an idea or group of ideas connected with a strong emotion we call a "complex." We thus note down that one of the patient's complexes is that of house and garden.

Going further along the list we find "long—grass" with an exceptionally long time. The same complex was aroused. We note, moreover, that the following association "ship—sailing" has also an extra long time, 6.6 seconds. This is the usual case after a complex has been aroused; the associations that follow are slower because the person is still distracted. We also notice that the second time we aroused the complex it had a stronger effect than the first time.

For the word "stupid" the association was forgotten and the time was somewhat lengthened. A complex was evidently aroused. It was a strong one, which persisted for some time; this is shown in several ways. The time for the following association "paper" was long. Moreover, the association was very superficial; the person evidently could not fix her mind on "paper" and could only stammer "to—to use—paper to use." Lastly, she forgot what she had associated. The complex was, indeed, a strong one; the symptom of which she complained most strongly was her increasing stupidity. She said she was also troubled by the fear that people despised her for her trouble. This we see for ourselves in the long time for "despise—to shun" and in the superficiality of the two following associations.

Many hundreds of cases have shown that when a word brings up an idea that is associated with an emotion this distracts the person so that he does not pay full attention to what he is doing. This often lasts for several associations. It shows itself in the records in the three ways specified above. We then reverse the process and say that, when we find associations showing one or more of the characteristics, we assume them to be influenced by complexes.

For the sake of simplicity I have mentioned only three of the symptoms of complexes. Jung gives the following list of symptoms: 1, Unusually long time; 2, forgetfulness; 3, superficiality; 4, mistakes—no answers; 5, word is taken in some unusual meaning that can be explained only by the presence of some disturbing thought; 6, persistence of the disturbance for following associations.

The following record is that of a patient at the Vanderbilt Clinic:

SPECIMEN ASSOCIATION RECORD (HYSTERIA).

(For explanation see previous specimen.)

true	1.2	to me	x
laugh	2.0	at it [at me]	
clean		[walker]	
all	3.6	over	x
friend	1.6	of mine	x
stupid	3.2	guy	x
blood	2.8	favorite	x
money	2.4	order [maker]	
forget	1.2	me	x

For the word "laugh" the association was forgotten. This indication of a complex is strengthened by the failure to associate within ten seconds for the following word, and a long time for the word after that. The patient denied that he was troubled in any way by people laughing at him; "everybody was good to him." In spite of this, it is safe to assume that his attacks and certain marital occurrences have made him feel ridiculous. After a few moments he says that on coming out of doors yesterday he was well dressed and that a lounger called him a "funny guy." He denied that he thought of it during the experiment. It is possible that the more basic complex of being ridiculed for his troubles may not have come to his mind at all, but that in searching for some explanation of the record he thought of the recent occurrence. It is also possible that the recent occurrence may have added itself to the larger complex. Another complex, the stupidity of which he complains bitterly, shows itself in the long time for "stupid" and in the superficial character of and the forgetfulness for the following association.

We all have passed through experiences of strong emotions. It is possible for an outsider by this method to discover them against our will. While Dr. Jung was once explaining the method one of the students declared that he did not believe it applicable to normal individuals. Dr. Jung said: "If you will do just one thing, namely, associate the words as quickly as you can, I will tell you what complexes you have." As a result the records showed that whenever a word was used referring to travel the associations showed the three characteristics we have described above. The student must have irresistibly thought of some unpleasant experience connected with traveling, and, although he tried to say something quickly, he unavoidably lost time or was distracted so that he made superficial associations or forgot what he had previously associated. Similar results were recorded for words relating to father, home, university, study and business. "Now," said Dr. Jung, "you are having some disagreeable experiences connected with these subjects; they form part of one or more of your complexes." "Yes," replied the student, "my father insists that I shall give up study at the university and go into business with him, but I have decided to leave home and go to some distant city rather than do it."

Dr. L. Pierce Clark, in making use of the method on a case of neurasthenia verging on hysteria, found abnormally long times for associations to "happy," "child," "blood," etc. The patient emphatically denied any experience involving a child and blood, but the family physician revealed a case of abortion with nearly fatal hemorrhage, and also that great unhappiness had been caused by the event.

To the physician a most interesting application is to the discovery of the complexes that cause hysteria. When people of unstable nervous systems meet the trials of life they are liable to be upset by a specially strong one. Even a moderately strong nervous system may break down under an unusually severe emotional strain. Such an experience remains in the person's mind as a complex which mixes itself into everything, even the ordinary affairs of life. Many cases of manic-depressive insanity undoubtedly have a similar cause.

According to Dr. Freud, of Vienna, such cases of hysteria can be cured if we can get the patient to talk out his complex. In many cases it is easy to find the complex, and then day after day the patient is induced to talk about it. Instead of making matters worse this method may actually produce a cure. Just how this is brought about is not quite clear. We may suppose that the continual hauling of the complex into the full glare of the limelight deadens it. Or, perhaps, the constant talking actually kills it. Or it may be that the patient actually becomes sickened of the whole business so that the complex instead of arousing an emotion becomes merely a tedious and indifferent bore. However this may be, the cures effected by the method are marked. Still more beneficial are the therapeutic talks properly applied.

But now we have another problem. The patient may refuse to reveal the complex, or may not be able to specify what past experience really upset him, or may select the wrong one. It can be found by means of the association experiments. I will not go into the matter further than to mention one case of Dr. Jung's. A woman was troubled with severe hysteric attacks for which she could assign no cause. The association experiments pointed to a painful experience many years ago of which the woman no longer had any thought. In the hypnotic condition this experience was revived and removed.

The application of the method in the detection of crime may be illustrated by an experience of Dr. Jung's. A man complained to him that a sum of money had been stolen from his office, but that he did not like to suspect his nephew. The boy was induced to undergo the association experiments on the plea that something was being done for his nerves. Words relating to theft, money, drawer, etc., were inserted in the list, with the result that the boy hesitated, stumbled and forgot whenever he came to them. When the experiment was over, the principle of discovering complexes was explained to him. His own record was then shown him; it was such a convincing document tthat he could no nothing else than confess.

Although any physician can learn to apply this method of finding complexes, yet it takes considerable time and skill. Eventually we may expect to have specialists to whom the patient is sent for a mental analysis, but to be returned for treatment.

87 Madison Avenue.

ENURESIS FOLLOWING PROSTATECTOMY.

REPORT AND ANALYSIS OF ELEVEN CASES, WITH RECOMMENDATIONS AS TO TREATMENT.

GRANVILLE MAC GOWAN, M.D.
LOS ANGELES, CAL.

I have operated for difficult or impossible urination, due, sometimes, to the obstruction of the urethral channel by new growths situated within the capsule of the prostate, sometimes to contracture of the prostatic capsule about the outlet of the bladder and consequent stenosis of the urethra with marked elevation of its floor above the base of the bladder, and sometimes to both elements combined, more than 250 times. In acquiring this experience I have put into practice nearly all of the procedures that have been suggested by writers on the subject of prostatism for the past twenty years. I frequently have the opportunity to examine persons who have been operated on by surgeons in many quarters of the world, and I am convinced that the claims which have been set up by some, that, following operations done by them, the patients are practically always able to empty their bladders entirely with comfort and

have perfect control of their urine, are mistaken assumptions based on incomplete observation.

One hundred and sixty-seven of these operations have been the procedure commonly known as prostatectomy. The after-treatment of these cases, with very few exceptions, has been conducted and controlled by me in person, so that any conclusions I may formulate are from my own experience and not derived from the clinical observations of others. I have not deduced a favorite method of performing the operation, but apply the one which I think best for the particular case before me. I have seen bad results in my own practice and I have known men to wear urinals or use catheters after operations done by surgeons of the greatest skill practicing in Chicago, London, San Francisco and northwestern America. A prominent New York surgeon came to California and operated twice on a man, leaving him leaking and in agony for a year, simply because the surgeon was wedded to a particular perineal operation which was not applicable to this type of case, for a perfect result was subsequently obtained by the same surgeon from a suprapubic operation.

The difficulties of the operation have been so minimized, the benefits in many cases so magnified, and imperfect results so glossed over or concealed by writers of known operative skill, that many who have only a very uncertain idea of the anatomy of the urogenital organs are emboldened to commence operations which they never finish and the necessity for which is often only problematical. So much bad work of this nature is being done that this very beneficent operation may easily fall into disrepute.

It is by way of calling attention to one of the not unfrequent disagreeable after-features, that of leakage, not the moderate leakage which is so common within the first three months after operation, but the prolonged incontinence lasting for six, eight or ten months or, perhaps, for years, that the attached cases are reported and analyzed. I hope my experience may be of service to others whose opportunities for observation have not been so great or who for private reasons forbear from mentioning their troubles for fear of being accused of lack of skill. When such incontinence occurs the cause may be sought for and found in one of the following conditions:

1. The removal of unusually large prostates, which, in growing, have so separated the fibers of the detrusor as they spread out over the bladder base that its contractile power is greatly enfeebled or almost lost, and at the same time so stretched its fibers of insertion into the prostatic capsule and the sphincter that the vesical outlet is made to gape and the prostatic urethra and the bladder cavity become practically continuous. Add to this the element of chronic inflammation and fatty degeneration, always present in these muscles where marked obstruction to the exit of the urine exists, and you have a perfect preparation for the leakage which is almost sure to follow the removal of these great tumors. The support of the weakened bladder wall is taken away; a degenerated sphincter, whose nerve supply has been short-circuited by pressure and inflammatory deposit, is unable to contract. And, above all, the cicatricial tissue which fills in the large and irregular wound often so distorts the base of the bladder and its outlet that it must remain always a source of astonishment that such patients ever regain urinary control. The operator can not make new bladders, and, provided he has properly and entirely removed the pathologic condition which gave rise to the necessity for operation, he must not criticise himself, or be criticised by others, for the incontinence which is sure to follow in some cases, or admit as a proof of his unique skill the brilliant success which occurs in others. Time tends to improve the condition of these people, and it is even possible that control be finally regained after a year or more of enuresis. Cases 1, 2, 3 and 4 are of this type. In Case 1 the tissue removed weighed more than 300 grams, entirely filling a large Mason fruit jar. In Case 2 the tumors weighed 190 grams; in Case 3, 250 grams, and in Case 9, 160 grams.

2. Leakage following the attempted removal of very large markedly fibroid prostates, which can not be removed and prove inoperable. There are two of these cases, 5 and 6, which, so far as I know, are unique. The glands were so hard in both cases as to destroy the usefulness of all sharp instruments used in attacking them. There was no line of cleavage between the gland substance and its capsule, and the inflammatory adhesions to the surrounding organs were so densely organized that removal by free dissection was impossible without opening the rectum high up, sacrificing the lower part of the bladder and entering the peritoneal cavity. They seemed for all the world like the small solid india rubber balls, or sturgeon noses, with which the boys play hockey, placed in a setting of copper matte. In Case 6, with knife, scissors and rongeurs, I cut a channel which has served since for exit of the urine. In Case 5 a similar channel was cut by working from both a perineal and a suprapubic opening. This did not remain open very long, which necessitated later the burning of a groove with the instrument of Bottini, which procedure fortunately has served its purpose to the present.

The natural surmise in both instances was that the growths were cancerous, but the pathologist found them to be fibroid, with no microscopic evidences of malignancy. One patient was operated on in 1902, the other early in 1904. Both patients are alive and in fair general health.

3. Leakage following the removal of small hard prostates with connective tissue elements predominating over the glandular elements and accompanied by a high grade of contracture of the bladder neck and diminished bladder capacity. There are two of these cases, 7 and 8 which by a singular coincidence were complicated by postoperative perineal fistula. From these, and further experience, I am convinced that the only conservative way of dealing with such obstructions is to completely sever the ring of fibrous tissue and the prostate in the median line from the bladder to the membraneous urethra with a sharp, blunt-pointed knife of the Blizzard type, and then remove both halves by excochleation or rongeurs, or, if this can not be done, by dissection with forceps and scissors. If this measure is not adopted either the patient will leak continuously or the retention will not be relieved; in either case, the dysuria and inflammatory vesical symptoms will continue; whereas after such hemisection and removal free drainage is established, pain ceases, uremic symptoms disappear, and sooner or later more or less perfect control of the bladder follows. Case 7 is additionally interesting in its demonstration that restoration of the general health may follow free drainage when a high grade of renal insufficiency is present and pronounced uremia exists.

It might be argued that these are typical cases for

the use of the cautery apparatus of Bottini, and they are. With my later experience I am convinced that, performed by a person who understands what he is doing, prostatectomy is not more dangerous than prostatotomy by electric cautery, and is more likely to be lasting and perfect in its results. This is at variance with the stand taken by me several years ago in my reports on the procedure of Bottini, when my experience with both operations was about equal. I have been afraid of this cautery apparatus ever since an accident nearly three years ago, in which the shaft of my instrument, one of the Young-Freudenberg model, with the water jacket in apparently perfect action, and the amperemeter registering 50, became heated to such a degree as to destroy the urethra from the bladder to the peno-scrotal junction. This happened on the person of one of my colleagues, whose condition was known to be one of the type of cases now under discussion, and who after several years of study and research of all the literature then accessible had chosen the Bottini as the operation he wished done on him. I have not used the apparatus since.

4. Leakage after prostatectomy caused by the failure on the part of the operator to perceive and remove small nodules situated on the vault or the side of the vesical opening of the urethra and which interfere with the proper closure of the bladder. I have operated in four such cases. The first, Case 9 of this series, had undergone two perineal operations by surgeons of small experience in urethral work. Each surgeon took away something. The first one left the patient with retention, the second with continous enuresis. Cystoscopic examination revealed the cause, and its removal was followed by cure.

Case 2, No. 10 in this series, occurred in my own practice in the person of a gentleman on whom I had done a successful Bottini operation in 1899, and what I thought was a very complete perineal prostatectomy in February, 1905, after which he leaked continuously. A cystoscopic examination made in May of the same year discovered a small tumor hanging down by its pedicle from the superior wall of the urethra at its vesical opening. Its removal by suprapubic operation in October, 1905 was followed by immediate partial control and eventually by perfect cure.

Case 3, No. 11 of this series, a man, 89 years old, had also undergone two operations, one suprapubic and one perineal, for removal of the prostate. Both operators were very competent general surgeons. The first left him with retention, the second left him leaking. Each removed something. The last operation was done in March, 1906. Again the cystoscope revealed the presence of a nodule in the vault of the urethral vesical opening. The tumor, which was 2½ cm. thick, was removed from the gaping bladder mouth through a suprapubic incision in April 1907. He has now full control, excepting when he stoops a long time at work in his garden, and then dribbles very little. A fourth case occurred in a man of 74, operated on by a skilled orthopedic surgeon. The prostate had been of moderate size and was shelled out easily through a small perineal wound; but control was entirely lost. There was nothing to be felt through the rectum, and the urethra was clear of obstruction to the neck of the bladder; there was no great deformative scar; the bladder possessed good expulsive power when filled by a syringe. The cystoscope showed a tumor of moderate size sticking into the bladder neck from the left upper quadrant, which prevented the closure of the opening, and I believe is the cause of the leakage. He has not yet consented to a secondary operation.

The lessons to be derived from my experience are:

1. That after removal of extremely large growths bladder control sometimes comes slowly, and a condition of enuresis, either partial or total, will exist for from six months to a year, and, perhaps, always. This condition, though lamentable, improves with time, and is apt to be best at night. There is no surgical remedy, if the operation has been complete. But I would recommend, wherever the leakage has lasted for six months, that careful rectal, urethroscopic, and cystoscopic examinations be made and if any remaining intraurethral or intravesical nodules be found that they be removed.

2. There are some dense prostates, not malignant, which can not be removed. Such cases should not be disturbed until the comfortable use of the catheter becomes impossible. Through these a permanent groove or furrow must be made, preferably by the cautery apparatus of Chetwood. They will always leak.

3. Where enuresis follows the imperfect removal of a small hard prostate, the only remedy is the hemisection of the fibrous ring and the prostate on its floor, and removal of the prostate, together with the nonresilient scar tissue. In such cases patients will then slowly regain control and be well people.

4. If following a prostatectomy, usually perineal, and where the prostate has been only of moderate size, not belonging to one of the three preceding classes, there is enuresis, and a careful rectal examination fails to show the presence of an intracapsular growth of paplable size, overlooked at the time of the operation, a careful examination of the posterior urethra and bladder, with suitable optical instruments, has sometimes revealed the presence of small tumors of glandular tissue hanging or pressing into the vesical outlet, preventing its closure, and the removal of such tumors by *sectio alta* has resulted in a cure of the condition.

REPORT OF CASES.

CASE 1.—C. A. E., aged 64 years; for ten years had frequent urination, dysuria and marked hematuria. He had been cut for stone in the prostate twice, and for a long time was treated for vesical tuberculosis. For five years he had led a catheter life. He sought relief from very frequent and profuse vesical hemorrhages. Feb. 4, 1904, I removed 300 gms. of prostatic tissue through a median perineal incision. The tissue was soft, broke readily, and had to be removed piecemeal from both sides and from under the bladder base far up past the trigone, the enlargement being intra-urethral, ante-rectal and intra-abdominal. In the prostatic tissue and between the prostate and its inner capsule, on both sides, there were more than 100 granular yellowish calculi. Many of these adhered tightly to the capsule and could only be removed by vigorous curetting. Hemorrhage was profuse. Many sections were made by a competent pathologist, and the growth pronounced a simple adenoma.

A good recovery was made, and fair power of retention gained to 240 c.c. at night, and half as much during the day. The urine never became entirely free from blood, nor did he recover from his extreme anemia. There was always polyuria. Early in August I noticed enlargement of all the inguinal glands, the scar in the perineum became puffy and indurated, extreme weakness with edema of the feet and legs developed. He took to his bed, severe cardiac and stomachic complications arose, and on September 18 he died.

Postmortem.—I found the walls of the bladder greatly thickened and almost its entire surface was cancerous. The scar tissue in the site of the removed prostate, and the wound in the perineum had also become cancerous. The pancreas was similarly diseased. The kidneys were both intensely sclerotic.

This case possesses three points of interest: 1. The great improbability in the removal of excessively enlarged prostates, at least by the perineal route, of obtaining perfect vesical control. 2. It is unique, I think, by reason of the very great number of calculi situated in all portions of the prostate, but more especially in the tissue of the capsule. 3. It shows the rapid development of carcinoma in postoperative cicatricial tissue, for at the time of operation I had my fingers well into the bladder, palpating the greater part of its walls without the discovery of any suspicious nodules, while the pathologist asseverates that the thorough and complete miscroscopic examination of the tumors removed revealed nothing suspicious.

CASE 2.—S. W. C., aged 65 years; at 50 had an attack of retention which required the use of a catheter for several days. At 58 he had a similar attack. At 64, during a third attack, he was unsuccessfully operated on twice for the removal of his prostate by his local surgeon; the last left him with a tortuous suprapubic fistula, and in the effort to close this he had been chloroformed and cut seven times. He was passing, with great dysuria, every twenty minutes about 15 c.c. of alkaline urine. Dec. 12, 1894, I removed suprapubically 190 grams of prostatic tissue. The healing of the wound took about nine weeks. He left the hospital dribbling during the day, but holding his water for three or four hours at night. In six months he had partial control during the day and better control at night. After a year, he continued to wear a urinal, because under excitement and fatigue he would leak some, and urination during the day was imperative at the end of every second hour.

CASE 3.—V. M., aged 66; led a catheter life for about ten years. Operated by the Bottini method in 1901 without benefit. For a year the frequency of catheterization has been once in four hours, and severe attacks of hematuria have been frequent. The prostate is very large and soft.

Urine acid, sp. gr. 1.020; contains pus, blood, bacteria, a few hyaline casts, and ¼ per cent. albumin. Daily quantity, 1,400 c.c.; urea, 22 grams. The prostate was removed in February, 1905, under spinal anesthesia by the perineal route. The fragments almost filled a pint fruit jar. The patient made a good recovery, but never obtained full control of the bladder; he leaked when he was tired. Subsequent cystoscopic examination showed a bladder which was very much trabeculated and had a distorted entrance to the urethra, caused by the retraction of the cicatricial tissue which, filling out the enormous cavity left after the removal of the prostate, failed to support the bladder base and prevented full closure of the vesical outlet.

CASE 4.—A. W. D., aged 62 years, was referred to me by Dr. Tanner. He had been a prostatic five years; led a catheter life one year. Prostate by rectal examination very large. Urine acid, containing 5 per cent. albumin, many hyaline and some granular casts, pus and bacteria; sp. gr. 1.018; daily quantity 2,000 c.c. Some digestive distress, some cardiac hypertrophy and commencing mitral lesions. April 6, 1906, perineal prostatectomy; enucleation difficult. The growth extended far up under the bladder wall, and its removal loosened this organ to a considerable degree from the surrounding structures. The bladder was sewed to the prostatic urethra on the sides with catgut. I watched this man's recovery with considerable interest, naturally fearing that he would never be able to retain his urine. Healing was complete in six weeks. He dribbled continuously until June 21, when he regained and has preserved nocturnal control. In October he obtained partial diurnal control, and could retain from 90 to 120 c.c. In December his bladder became very irritable, and on examining it with a cystoscope I saw a small rough phosphatic stone lying in a pocket back of the left ureter. I have had occasion to watch the formation of vesical stones with the cystoscope several times, and this was left in a position for purposes of observation until Feb. 18, 1907 when it was crushed and removed. We have cystoscoped him several times since. The bladder surface is very rough, there are huge pockets to be seen, the interureteral fold is distorted and the bladder neck irregular, but gradually the power of retention has returned, until he can now hold from 180 to 240 c.c. of urine, and only wears an urinal as a precaution because the call for emptying the bladder is imperative when it comes. His sexual power, in abeyance for several years, is restored, and he has gone to work at his trade as a miner.

CASE 5.—J. S., patient of Dr. Beckett, had symptoms of urethral obstruction for three years; led a catheter life for two years. Catheterization possible only with a small metallic catheter, and necessary every second hour. Prostate very large; could not be circumscribed by finger in rectum. Urine acid; moderately purulent; no blood or casts; 900 c.c.; sp. gr. 1020.

Jan. 25, 1903, the prostate was exposed freely after the method of Proust. Excochleation was impossible because no line of cleavage existed between the prostate and its capsule. Removal *in toto* failed because the cellular cushion between the organ and the surrounding structures was destroyed by adhesions, and neither scissors, knife nor sharp rongeurs made any headway against its density. The sharp instruments were nicked and destroyed. A suprapubic opening was made, and as no better success followed the attack by this route, a small V-shaped ditch was sawed in the floor of the prostate from the bladder to the isthmus. The outer wounds healed without difficulty, but the retention was not relieved. February 25 a central incision was made with Bottini's instrument. After the passage of the slough, there was relief from retention, with nocturnal control and diurnal dribbling. The patient is still living. The pathologist reported no indication of malignancy.

CASE 6.—J. D., aged 73 years, patient of Dr. M. L. Moore, had difficult urination for ten years; continuous catheter life for two months. It was almost impossible to insert any instrument. Urine acid; sp. gr. 1.020; albumin, 2 per cent.; pus and bacteria present. June 11, 1904, a perineal prostatectomy was attempted. The prostate was extremely hard, adherent to its capsule, and the capsule adherent to all of the surrounding tissues. Excochleation, either partial or total, was impossible. With knife and rongeurs enough tissue was removed to make a channel. This was accomplished by enlarging the perineal wound after the method of Proust, so as to clearly expose the prostate, and it was very difficult. The tissues were almost cartilaginous in their density, hard enough to turn the edges of my best knives, break my scissors and nick my rongeurs. The pathologist reported this to be a fibroma. The man is still living, has fair control of his bladder by day, but leaks at night. He works, and is satisfied and contented, for he has no pain and is otherwise in good health.

CASE 7.—Mr. X., patient of Drs. Salisbury and Haynes, had vesical irritability, difficult urination and decreasing sexual power for five years. This was treated disastrously by forced urethral dilatation. He was irritable, hysterical, uremic, emaciated and cachectic, and every twenty minutes passed a thin feeble stream of urine, which was alkaline; sp. gr. 1.010, contained some blood pus, micro-organisms, hyaline and granular casts, and some kidney cells. The daily quantity of urea varied from 9 to 12 gms. Bladder capacity 80 c.c. From the pain and cachexia it was believed that he was suffering from cancer. But local examination, together with frequent urinary analysis, convinced me it was rather a case of cystitis and congestive renal insufficiency kept up by prostatic obstruction. Continuous drainage by retention catheter; vesical and stomachic lavage with 1 to 30,000 silver nitrate solution; hypodermoclysis of normal salt solution, gentle sweating and restricted diet gradually improved his nutrition, increased the activity of his kidneys and caused the disappearance of the cachexia and depressing nervous symptoms; the intervals of urination lengthened to one and one-half hours, and the bladder capacity increased to 150 c.c., with a residuum of 75 c.c., but the dysuria continued.

Nov. 2, 1903, through a median perineal incision, the prostate was found to be small, sclerotic, obstructive laterally, and accompanied by a very marked contracture of the bladder neck. The organ was carefully removed without disturbing the vesical outlet, as I had foolishly promised not to enter the blad-

der. He made an uneventful recovery, and was about in two weeks, but he dribbled continuously. Dec. 18, 1903, at a secondary operation done to discover the cause of the leakage, the stenosed bladder outlet was found to be rigid and gaping. A median incision was made through the sclerosed tissue to the base of the bladder, and the fibrous ring, which contained many small nodules of prostatic glandular tissue set into it like pearls in a circle, was removed. He leaked from the meatus more or less for a year, but gradually obtained control, is said to have no residual urine, is well and works hard every day.

CASE 8.—C. B., aged 60 years, patient of Dr. Joseph Kurtz, had a litholapaxy done Oct. 6, 1903, for a calculus which had invalided him for a year. Confinement for two days. At work in two weeks. October, 1904, same operation, same condition. Rectal examination showed only moderate prostatic enlargement. Cystoscopy revealed intraurethral and intravesical obstructive nodes and contracture of the bladder neck. Vesical capacity, 150 c.c.; residuum, 50 c.c. A cutting operation was proposed and refused.

June 8, 1905, a perineal prostatectomy was done at his request, by Young's method. The prostate was small, fibroid, with the urethral surface studded with small nodules, and every millimeter of the mucous membrane was adherent to the prostatic capsule and came away with the prostatic substance with provoking ease. The contracture had a very hard-edged opening. The prostatic tissue could not be separated from this sclerosed mass, so it was hemisected in the median line on the urethral floor to the bladder base, and then both halves were removed with rongeurs. A large calculus was removed from a pocket in the vault of the bladder over the pubic arch and a smaller one from a pocket in the floor. For three months he had very little control. He leaked from a small fistula in the perineum, which I never have been able to close permanently, and which communicates with the left lateral cut in the prostatic capsule. Gradually his condition has improved, until he has entire nocturnal control, and his bladder will hold to 150 c.c. of urine in the day time, which he passes in full stream, but when he gets very tired there is, sometimes a little leakage. With a straight urethroscope and a retrograde cystoscope one can see a small tumor of glandular tissue growing into the upper left hand segment of the vesical outlet, and this, in my opinion, if removed, would result in perfect control.

CASE 9.—J. L., aged 75 years, a helpless invalid, referred to me by the superintendent of the Good Samaritan Hospital, Aug. 7, 1905, had previously undergone two perineal operations for prostatic obstruction. After the first operation he still had total retention; after the second he leaked continuously, and in addition suffered from a widespread neuritis and cystospasm. A few drops of urine were expelled with great tenesmus at intervals of from two to five minutes. Under spinal anesthesia he was cystoscoped, and a small node was seen projecting into the urethra from the upper surface on the left side. This was removed suprapubically with a rongeur. The wound healed in sixteen days. On the twenty-fourth day he could retain urine from two to three hours, and eventually made a very good recovery, being able to control his bladder perfectly.

CASE 10.—N. B., 73 years old, patient of Dr. Mott, was operated on by me for enlarged prostate, by Bottini's method, in 1899, from which relief of retention followed, lasting four years. Feb. 2, 1905, a perineal prostatectomy was done. The prostate would not strip from its capsule, and had to be removed with rongeurs. After this operation there was only partial vesical control, best at night. During the day not more than 45 c.c. of urine could be retained, and this was expelled in a feeble stream. May 20, 1905, on cystoscopic examination, using the Schlagintweit retrograde cystoscope, a small round nodule could plainly be seen hanging from the superior wall of the vesical opening of the urethra. There was also considerable edema of the bladder neck, and four minute calculi were discovered lying in a pocket just in front of the intraurethral fold. Oct. 5, 1905, sectio alta was done under spinal anesthesia. The prostatic nodule was removed with a rongeur, and the calculi taken away. It was found that the scar tissue had formed a shelf over about an inch of the posterior urethra, and so puckered and deformed the opening from the bladder as to leave a small triangular slit that did not close at all. The shelf was cut through to the floor of the urethra and the adhesions broken up. A large catheter was introduced through the urethra and the suprapubic wound closed. Healing was complete on the tenth day. Improvement was immediate. He was soon able to control his bladder perfectly at night, and the increase of ability to retain urine during the day was marked. With the aid of a rubber urinal, to guard against sudden excitement or inability to find a place to relieve himself at the time when urination became imperative, he was able in 1906 to make a long European tour, and now has both nocturnal and diurnal control, except when very tired, when he will sometimes moisten a small pad worn to protect the clothing.

CASE 11.—N. K., aged 89 years, had difficult urination for ten years; retention three years ago. Suprapubic operation for stone and removal of some prostatic obstruction, without relief. A perineal prostatectomy was done two years ago, and following this there was leakage and cystospasm. Cystoscopic examination revealed a large stone and a flap on the left side of the bladder neck, containing a nodule of prostatic tissue.

April 14 a sectio alta was done and I removed a large, granular, phosphatic calculus, 5½ cm. long, 7¾ cm. in circumference. A large nodule was found obstructing the urethra on the roof and upper left side of the vesical opening, and smaller growths sprang from the flap on the left of the bladder neck. These were all removed. At the end of five weeks he had entire control of his urine, excepting when over fatigued from working in a stooping position.

Clinical Notes

THE NATURE OF THE POISONOUS ELEMENT OF PROTEINS THAT IS CONCERNED IN THE REACTION OF HYPERSENSITIZATION.*

H. GIDEON WELLS, M.D.
CHICAGO.

There are several isolated facts and observations that seem to connect the aromatic radicals of the protein molecules with the toxic properties that seem to be common to all proteins, and on which seems to depend the property of inciting various reactions in whatever animal organism a protein may be injected. In the first place comes the fundamental fact that aromatic compounds are usually toxic, from the simple phenol to the highest molecular compounds containing an aromatic nucleus.

Again, the toxic and bactericidal properties of the products of protein disintegration are largely ascribed to aromatic compounds. Obermayer and Pick have found that the remarkable character of specificity of protein seems to depend in some way on the aromatic radicals of the protein molecule, as shown by the following observation: The precipitin that is produced by injecting any given protein into an animal is more or less closely specific for the protein that was the cause of its formation; but if before being used for immunization the protein has been first saturated with iodin, diazo groups, or other substances that combine with the benzene rings of the protein molecule, then the precipitin that will be produced by such an altered protein will not be specific for the protein injected, but will react with

* A preliminary note from the Department of Pathology of the University of Chicago.

almost any sort of protein. For example, the serum of an animal immunized against bovine serum will produce precipitins that react only with bovine serum and not at all with any other proteins; but if bovine serum is first saturated with iodin before being used for immunization, the serum of the injected animal will react not only with bovine serum but also with horse serum, human serum, milk, or any other of a large list of different protein containing fluids. Of similar import is Fleischmann's observation that tryptic digestion of serum likewise causes the serum to be capable of producing only non-specific precipitins; for in tryptic digestion it is the tyrosin and tryptophan radicals that are first split out of the protein molecule. Vaughan and his pupils have been able to split proteins of various sorts into toxic and non-toxic portions, and at the recent meeting of the Association for the Advancement of Science, Dr. Vaughan stated that the toxic portion of the protein molecule contains the aromatic radicals, and that gelatin, which is notoriously poor in aromatic radicals, does not yield a toxic portion.

The connection between the facts mentioned above and the remarkable phenomenon of hypersensitization or anaphylaxis, seems apparent, and it was thought that if these observations and deductions are correct, then the toxic effect of a second dose of a protein injected into an animal that has been sensitized by a previous injection of the same sort of protein given two weeks or more previously, may be dependent on the aromatic radicals of the proteins. To test this hypothesis several attempts have been made, with various modifications of dosage, to obtain sensitization of guinea-pigs to gelatin, which contains in the way of aromatic radicals only a small quantity of phenyl alanin, no tryptophan, and most minute or no traces of tyrosin. In no case has sensitization been obtained, although, so far as the literature shows, every other form of protein that has yet been investigated will sensitize guinea-pigs. These results are in agreement with Vaughan's finding that no toxic group can be split out of the gelatin molecule, and indicate that the toxic substance concerned in the anaphylaxis reaction in some way depends on the aromatic radicals of the proteins, just as the specificity of the precipitin reaction seems to be due to these same radicals. As Anderson and Rosenau[1] have suggested in their valuable studies, this reaction of anaphylaxis seems to be fundamentally related to many of the vital principles of infection and immunity, and if further studies that are under way can establish what the gelatin experiments indicate, that this reaction depends on certain specific groups of the protein molecule, an interesting line of research into the chemistry of these reactions will be opened.

1. Jour. Infect. Dis., 1908, v, 85.

FULMINATING PELVIC-ABDOMINAL EDEMA SIMULATING RUPTURED TUBAL PREGNANCY.

WALLACE A. BRIGGS, M.D.
SACRAMENTO, CAL.

The similarity of the symptoms to those of ruptured tubal pregnancy in two cases of fulminating pelvic-abdominal edema which came under my observation led me to search the literature for analogous cases. Extensive research and careful study of cases revealed only two cases of fulminating pelvic-abdominal edema in which a diagnosis of ruptured tubal pregnancy had been made. In one of these the diagnosis of retro-uterine hematocele was changed to salpingitis with suppurative ovaritis before operation was decided on. For purposes of comparison it might be well to give a brief history of these cases before citing my own:

JOCET'S CASE.—The first case was reported by Jocet in 1897. It occurred in a woman aged 28, who had been married eight years; no children. There was a history of having experienced on two different occasions severe pelvic-abdominal pain accompanied by accumulation of fluid in the right iliac fossa, which presented the characteristics of hematocele. These tumors terminated in resolution and the patient was entirely well during the intervals. She had a third attack in September, 1907, which was again diagnosed by another physician as hematocele and, in the light of the previous history, treated expectantly. Her condition improved, but on November 23 she was suddenly attacked by violent abdominal pains and almost incessant vomiting, accompanied by pallor, anxious facies, dry and flaccid skin. At the time of examination, chill; abdomen slightly tympanitic. A large fluctuating mass in the right iliac fossa extended within a hand's breadth of the crural arch. Right lateral cul-de-sac presented a tumefaction which appeared continuous with that of the iliac fossa. Bouilly positively excluded hematocele and diagnosed the condition as salpingitis, with suppurative ovaritis or inflamed cystic ovary. Operation November 25. Incision in right posterolateral cul-de-sac was followed by a discharge of a large quantity of perfectly limpid fluid. A fluctuating cyst could now be palpated in the abdomen and Bouilly, believing this to be an ovarian cyst which had given rise to the peritoneal phenomena, performed laparotomy and exposed a large gelatiniform, encysted peritoneal mass in the iliac fossa, filled with a clear fluid. Underneath the peritoneal edema was a whitish-pink layer which formed the wall of the true sac. This was punctured and a considerable quantity of fetid pus evacuated. The pus sac was found to be the greatly distended suppurative ovary; it was separated from adhesions and enucleated. Recovery uneventful.

LEGUEU'S CASE.—The second case was observed by Legueu in 1901. Female, aged 21, was admitted to Hospital Hotel Dieu, May 16, 1901. Menstruation began at age of 16 and had always been regular. She aborted in May, 1900, and complained of pelvic disturbances since then. About fifteen days preceding date of admission to hospital, after regular and normal menstruation, she was suddenly attacked by violent pelvic pain accompanied by syncope, extreme pallor, cold extremeties, etc. The abdomen was enlarged. Pain diminished somewhat, but the abdomen remained distended, hard and painful to pressure. Vaginal examination disclosed a fluctuating mass in the posterior cul-de-sac. A diagnosis of retro-uterine hematocele was made. On opening the abdomen a quantity of yellow, serous fluid escaped. It was found that a serous exudate had developed around the right adnexa. This contained 500 grams of fluid and extended from the cul-de-sac of Douglas below to a wall of its own above, formed of a fibrinous network of tissue. The adnexa were removed and the roof of the serous cavity allowed to remain. Recovery was accompanied by slight postoperative suppuration. The serous fluid was examined and found to contain leucocytes and desquamated peritoneal epithelial cell.

BRIGGS' CASES.—I will now report my own observations:

CASE 1.—Mrs. G.,[1] came to my office complaining of malaise and pelvic pain. Her menstruation had been normal. By a pelvic examination I discovered only a slight and obscure fulness about the left adnexa. The uterus was normal in size and consistency. Neither the history nor the local condition suggested ectopic pregnancy. Two days later the patient again came to my office. Her face was pale, anxious, pinched; her pulse 120, small and weak; temperature 100 F. The pelvis was completely filled with a fluctuating mass. Notwithstanding the early history I made a diagnosis of ruptured tubal pregnancy. On opening the abdomen I found the pelvis en-

1. Case reported to the Occidental Medical Times. Author give date—with a series of twenty-one ectopic pregnancies.

tirely roofed over and when the agglutinated surfaces were separated serum poured out of them like sap from succulent bark in the spring time. Convinced that the case was one of fulminant pelvic peritonitis instead of misplaced pregnancy, and fearing an almost certain infection of the general peritoneum if the operation were completed from above, I closed the abdomen and entered the pelvic peritoneum through the posterior fornix. About a pint of serum was evacuated and gauze drainage thoroughly established. Uneventful recovery.

CASE 2.—Mrs. ———, aged 34 years, has had two full term pregnancies and six abortions; has had more or less discomfort for several years, which, however, did not impair either her general health or her capacity for work and for which she did not consult a physician. Her last menstruation appeared Jan. 21, 1905, four days overdue; it was scanty and intermittent but not otherwise abnormal until January 28, when I was called. I found the patient suffering with rather severe paroxysmal pelvic pain, which she ascribed to abortion. Pulse and temperature were normal; the general condition was excellent; flow moderate and bright. I ordered codein and phenacetin to relieve pain.

January 30, 2 p. m., patient has had severe pelvic pain extending into the abdomen, particularly on the right, since 8 p. m. yesterday; has had two "fainting spells;" temperature normal; pulse 90, small and compressible; abdomen sensitive, particularly near the pelvic brim, but soft and pliable. Gave ¼ gr. of morphin hypodermically and ordered it repeated every hour by mouth until pain was relieved. At 6 p. m. patient was relieved, but evidence of shock was more pronounced; radial pulse imperceptible; skin and mucous membrane were markedly anemic; uterus retroverted, enlarged, fixed, sensitive; adnexa indistinguishable; liquid could be demonstrated in the flanks on either side but insufficient in quantity to transmit a wave. Feeling that the case was one of shock due to internal hemorrhage arising from ruptured tubal pregnancy, I advised an immediate laparotomy. At once the patient's face flushed a deep scarlet and the diagnosis, which a moment before I regarded as practically positive, was open to serious question. The deep flush seemed irreconcilable with the theory of so grave an internal hemorrhage. The doubt was fully admitted, but exploratory incision was urged as the only means of diagnosis and possible treatment. A hypodermic of adrenalin and a high enema of saline solution were administered and the patient was taken to the hospital. Exploratory incision at 10:30 p. m. Preperitoneal connective tissues filled with great blubbers of serum which extended to the level of the umbilicus, confusing the relation of parts and necessitating a prolongation of the incision upward. Three pints of serum were taken from the abdominal cavity; the pelvic peritoneum pouched into the pelvic cavity from every direction; the left tube was chronically inflamed, the right tube imbedded in adhesions; what seemed to be the right ovary was as large as a goose egg and cystic. The abdomen was closed without further molestation. Consciousness returned but the patient did not rally and died at 2:30 a. m.

Autopsy by Dr. Twitchell.—Three pints of serum in peritoneal cavity; connective tissue as high up as umbilicus anteriorly and the diaphragm posteriorly filled with serum; mesentery filled with serum; pelvic peritoneum pouching into pelvic cavity from every direction and presenting the appearance of cysts; what at the operation seemed to be the cystic right ovary proved to be a peritoneal bag filled with serum; right ovary and tube imbedded in recent adhesions, right tube thickened but free from pus, left tube slightly thickened and injected but free; with the exception of that covering the right tube and ovary the peritoneum nowhere presented evidence of inflammation.

These two cases, as well as the case observed by Legueu, have much in common, both symptomatically and pathologically: symptomatically a close simulation of ruptured tubal pregnancy; pathologically the rapid accumulation of a large quantity of serum both subperitoneally and intraperitoneally, in one case positively, in the other probably, beginning in the pelvis and extending upward, in the earlier case to the false pelvis, in the latter to the diaphragm. In one case certainly, in the other case probably, there was a nidus of inflammation in the tube. Unfortunately Legueu does not state at what point the limiting fibrinous membranes had formed, nor does he give any information concerning the pathologic condition of the right adnexa which he removed.

Both of my cases so closely simulated ruptured tubal pregnancy that a positive diagnosis was prevented in the former case only by the absence of the usual history preliminary to rupture, and in the later case only by the sudden deep flushing of the face inconsistent with exsanguination. In the later case a confident diagnosis was expressed and I believe would have been expressed by the most experienced diagnostician before the flush described in the case report. The menstruation, hemorrhagic in character and delayed a week, the pelvic findings, the excruciating pain radiating from the pelvis, the seeming acute anemia with evident shock increasing to collapse, afforded grounds for a positive diagnosis of ruptured tubal pregnancy. The deep flush of the face following excitement was incompatible with this diagnosis.

Toward an etiologic solution of these cases I confess my inability to contribute anything positive. In both cases there was a mild inflammatory condition, in the earlier case producing agglutination of the peritoneum and roofing in the pelvis, and in the later case confined to the right adnexa. In the second case particularly angioneurotic edema suggests itself as a not improbable solution. The patient was highly neurotic and for a year or more preceding the fatal attack; beside doing her own housework, sewing, etc., had given a great deal of time to preparing herself for a musical career. Besides these there were other demands on her nervous system which may have contributed to the neurasthenic condition.

CONCLUSIONS.

1. Fulminating pelvic edema may very closely simulate a ruptured tubal pregnancy.
2. Absence of subjective and objective signs of pregnancy, of irregular uterine hemorrhage, of decidua in the flow in cases of shock with severe pelvic pain, would suggest the possibility of fulminating pelvic edema.
3. A hemoglobin test might assist in the differential diagnosis.
4. Fulminating pelvic edema is probably angioneurotic in origin.
5. Death (as in Case 2) may result from acute pelvic-abdominal edema.

Glaucoma and General Affections.—Blessig of St. Petersburg warns that glaucoma should not be regarded as an independent and purely local affection, but rather as a manifestation of some general trouble. It is generally a symptom of pathologic changes in the vascular system. Reduction of the pressure in the heart arteries and corresponding increase in the venous pressure may suffice to transform a merely glaucomatous tendency into actual glaucoma. Zimmermann has reported great benefit from heart tonics, especially strophanthus, to reduce the difference between the general blood pressure and that within the eye. Emotional stress and neuralgia may also start or aggravate a glaucomatous condition. Hirth found sclerosis of the carotids in 46 among 69 glaucomatous patients. The specialist and the internist must work hand in hand, Blessig concludes, in order to control glaucoma. His article was published in the *St. Petersb. med. Wochschr.*, Sept. 7, 1907.

INTESTINAL PERFORATION BY ABDOMINAL CONTUSION; OPERATION; RECOVERY.

L. W. LITTIG, M.D., M.R.C.S.
IOWA CITY, IOWA.

Perforation of the intestine caused by a blunt, nonpenetrating, vulnerating body, with operation and recovery, is sufficiently uncommon to justify the report of an isolated case.

Early in September, 1907, a middle-aged, robust farmer ate eighteen ears of sweet corn, finishing his repast at 2 p. m. Two hours later, while at work in the barn, he was kicked by a horse, the blow falling just above and to the left of the umbilicus. For a few seconds he did not consider himself seriously hurt, but the pain soon became excruciating. He was assisted to his house, and medical aid reached him within a half hour. At about this time he vomited "two basinfuls" of sweet corn. Morphin, ¼ grain, was administered at intervals.

I was called at 6 p. m., but train connections and distance made it impossible to reach the bedside before 1 a. m., nine hours after the accident. At this time a contusion as large as a silver dollar was plainly visible three inches above and to the left of the umbilicus. The abdominal walls were board-like in their rigidity, tenderness on pressure was acute, especially in the immediate vicinity of the contusion. Symptoms of shock were but slightly marked at this time.

Basing judgment on the history, and especially on the "board-like rigidity of the abdominal muscles," a diagnosis of intestinal perforation was made, and the abdomen immediately opened. Coils of intestines were already agglutinated by fibrino-purulent exudate, and a brief search revealed a perforation of the intestine at about the jejunoiliac junction, and almost directly under the contusion. The perforation was round and sufficiently large to admit the little finger, but was effectually closed by the protruding mucous lining of the intestine. It was located opposite the attachment of the mesentery. The perforation was closed in the usual way, a few grains of corn were removed, the intestine in the immediate vicinity was carefully sponged, drainage introduced, several additional grains of corn coming away with the discharge from the wound, which was profuse for a few days. The patient made a complete and uneventful recovery.

This case is classic in every way. The perforation was directly under the point of impact, opposite the mesenteric attachment; almost completely closed by the mucous lining of the intestine, and merely enough of the intestinal contents had escaped to set up a severe but localized peritonitis. The vomiting was life-saving. All credit is due to the attending physicians, Drs. McLaughlin and Heald, who so quickly recognized the serious nature of the accident.

WHOOPING COUGH

COMPLICATED BY ACUTE NEPHRITIS, LOBULAR PNEUMONIA AND LEFT-SIDED HEMIPLEGIA.*

ALBERT ENGLES BLACKBURN, M.D.
Instructor in Medicine, Medico-Chirurgical College; Assistant Physician Philadelphia Hospital: Physician Out-Patient Department Presbyterian Hospital and Old Man's Home.
PHILADELPHIA.

E. S. M., aged 4 years and 8 months; breast fed; has had none of the diseases incident to childhood except whooping cough, which began six weeks prior to May 14, 1907. The cough was moderately severe, four to eight paroxysms daily, with considerable eructation; the child was not considered ill, and was not under medical observation. She was carefully fed, kept in the open air a great deal, which may have had some influence on the nephritis because of the extreme dampness and cold prevalent during this period.

Suddenly, at 5 p. m., May 14, 1907, while on the porch, the child was seized with a general convulsion, which was immediately followed by coma, absolute and continuous for the next ten days. Convulsions recurred at 5:30 and 8 p. m. and 1 a. m. Careful inquiry elicited no indiscretion in diet. However, the intestinal tract was thoroughly emptied by enemata and salines. Most careful examination of the lungs failed to detect any pneumonic process. Having eliminated the most likely causes of convulsions under the existing circumstances, we were puzzled when they recurred and the coma did not lessen. At 11 p. m. we catheterized the child and obtained one-half dram of a highly albuminous urine.

The cause of the convulsions having been established, the child was placed in a hot pack, which failed to cause her to perspire. The temperature began to rise, and at 2 a. m., after the last convulsion, the temperature reached 108.4. The child was pulseless; respirations were very high, but were not recorded. Prompt and vigorous stimulation with digitalin, nitroglycerin, strychnin sulphate, the constant application of the ice bag to the head and abdomen, and constantly rubbing the surface with alcohol, reduced the temperature gradually but continually to 101.4 at 2:30 p. m. The skin remained dry and harsh throughout the disease, with no visible tendency to perspiration, and the application of heat, in any form, sponge pack or hot mustard foot bath, increased the temperature, and they were discontinued.

On the tenth day there appeared on the neck and chest a vesicular eruption, which soon disappeared. Liquids given in teaspoonful doses were swallowed with difficulty, but, together with saline enemata, increased the amount of urine, which was voided involuntarily. On the evening of the third day the temperature had risen to 103.8, at 11 p. m. respiration 36, pulse 144, and there were signs of beginning pneumonia in the middle part of the right lower lobe.

The following morning at 11:30 the temperature was 103.6; pulse, 140, and respiration, 40.

The lung lesion had gone on to complete consolidation about the size of hollow of hand. In the middle of the right upper lobe, anteriorly, there was a consolidation about the size of a silver dollar, with numerous moist râles over the left base posteriorly. The temperature was again reduced to 102 by ice-cold compresses applied to the abdomen and the other means above detailed. On the morning of the sixth day the temperature again rose to 106.6, the child became pulseless, and respirations, while recorded as 36, were suppressed at intervals, Cheyne-Stokes in type, and indicated laryngeal stenosis, so marked that the child seemed to be strangling to death. The cough was irritating, suppressed, and the lungs filled rapidly with mucous râles.

The condition was so extreme that all nourishment which had been given by gavage was withdrawn for a period of twelve hours, during which time the crisis occurred. Throughout this period there were constant convulsive movements of the right arm and leg. On pin pricking she would move somewhat her right arm and leg, but not her left. Whether this apparent paralysis of the left side was sensory or motor was difficult to decide in the presence of the profound coma. On returning consciousness, about the tenth day, there was plainly present a left-sided paralysis involving the leg, arm, face and external rectus. The urine, as stated before, was voided involuntarily, but numerous specimens collected on cotton under waxed paper, showed large quantities of albumin, numerous hyaline and granular casts, and some blood. It increased in amount and the abnormal findings gradually disappeared until the thirtieth day, when the urine was practically normal.

The pneumonia gradually resolved itself, and the coma was replaced by returning consciousness; the cough again became troublesome and paroxysmal, whooping in character, with expectoration of mucus and occasionally vomiting. It finally disappeared, as is usually seen in uncomplicated whooping-cough.

The paralysis was absolute, but gradually improved. On June 5, 1907, she made the first attempt to move the leg. There was present marked talipes equino varus, which was corrected by a brace. At this time, Jan. 1, 1908, she walks with a halt, and there is still loss of power in the arm, and especially in the hand.

* Presented at the West Branch of the Philadelphia County Medical Society.

The treatment of the case was symptomatic, with rather vigorous stimulation in a child so young; she received for days, every three or four hours, hypodermics of digitalin, gr. 1/50 to 1/100, and nitroglycerin, gr. 1/200 to 1/400, together with strychnia and whisky at intervals.

The most common complications of pertussis is bronchopneumonia, and the mortality is large, more than 25 per cent. Other and less frequent complications are meningitis, measles, diphtheria, convulsions, cerebral hemorrhage and spasm of the glottis. The text-books mostly mention nephritis in the list of complications, and yet, with a rather extended search of the English literature, I was unable to find a single reported case.

The special points of interest in this case are the number and severity of the complications, any one of which would give a bad prognosis, but to have present in a child of this age, acute nephritis, with suppression of urine for about twelve hours, a rather severe type of bronchopneumonia, a complete hemiplegia due to cerebral hemorrhage, and laryngeal stenosis of rather severe type, with recovery, was more than those in attendance or consultation could have hoped for.

A CASE OF VACCINATION OPHTHALMIA.

E. F. SNYDACKER, M.D.
CHICAGO.

I think the following case which came under my observation worthy of publication, as it brings before the practitioner a serious complication of vaccination but little thought of, and too little guarded against:

Willie S., 6½ years old, had been vaccinated about three weeks before I first saw him. The vaccination had taken, the arm had become sore and swollen, there was much discharge from the point of vaccination, also much itching. Although the point of vaccination had been protected by a shield, the child had raised this and scratched the wound. About two weeks after vaccination the eye became red, and the lids became swollen, till the eye was almost completely closed. When the mother brought the child to me the condition was as follows:

The lids were swollen so as to close the eye almost completely; a profuse mucopurulent secretion was present. On opening the lids, a gray membrane was seen covering the inner portion of the eyeball, and the conjunctival surface of the lids, extending from the caruncle to the cornea, and covering both upper and lower tear puncta. This membrane was moderately thick, but little adherent, and caused but little bleeding on removal. On the conjunctival surface of the lower lid, near the punctum, but not involving it, was a swollen oval ulcer with ragged, dirty gray edges; here the membrane was somewhat more adherent and there was bleeding on removing the membrane. The cornea was hazy, and at its inner border was a small gray area of infiltration about the size of a pinhead. The pupil was contracted, but the iris was not discolored and reacted to light.

At first I thought I had to do with a case of diphtheria. I took the child's temperature and found it normal. I examined the nose and throat and found no involvement there. The mother herself called my attention to the fact that the child had been vaccinated, and that she thought there was some connection between the inflammation of the eye and the vaccination. It then began to dawn on me that I was dealing with a case of inoculation of the eye with vaccine virus.

I removed the membrane, and by means of small cotton swab I carefully and thoroughly touched its site, as well as the site of the conjunctival ulcer of the lid with a solution of permanganate of potash, 1 to 250. I instilled a 1 per cent. atropin solution into the eye, and found that the pupil dilated evenly and without difficulty. The mother being unwilling to leave the child in the hospital, I ordered a 10 per cent. argyrol solution to be dropped into the eye four times a day, atropin solution (1 grain to the ounce) twice a day, hot applications four times a day, and I myself applied a 1 to 250 solution of permanganate of potash daily to the conjunctiva of the lids. A culture from the membrane showed no Klebs-Loeffler bacillus.

At first the condition proved somewhat refractory. While the membrane did not reform, the conjunctival ulcer was slow in healing, and the corneal infiltration showed a tendency to spread, becoming thicker, grayer and larger, the epithelium breaking down, till there was an ulcer about half the size of a split pea. It was only after cauterizing the corneal ulcer twice thoroughly with a 95 per cent. solution of carbolic acid that it was checked. In all, it took four weeks of careful attention before the boy was discharged cured, and when last I saw him, six months after his discharge, there was still quite a dense gray macula at the site of the corneal ulcer, which fortunately involved only the periphery of the cornea, and did not, therefore, injure the vision in the least.

The literature does not deal very extensively with this condition. The cases that have been reported are carefully analyzed in a dissertation by Dr. Reiner Schmitz of Dortmund. He cites cases of Berry, Critchell, Hirschberg, Peiper, Schapringer, Schirmer, Sénut and Weiss. Aron also reported several cases and reviewed the literature.

While in the majority of these cases the outcome was good, at times, the eye involvement was very severe, and in several cases severe corneal complications resulted in loss of sight. If we happen to know that an individual presenting such an eye involvement has been vaccinated, and are fortunate enough to have somebody question the connection between the two conditions, then a diagnosis is easy; otherwise, we are almost certain, if we see the disease during its membranous stage, to mistake it for diphtheria.

The differential diagnosis, however, is not difficult. The fact that the membrane is not especially adherent, that it does not bleed freely on removal, the absence of nose and throat involvement and of severe constitutional symptoms, and, finally, the culture test render a differential diagnosis easily possible.

103 State Street.

DEATH FOLLOWING ADMINISTRATION OF A CROUP REMEDY.

J. A. PALMER, M.D.
ERIE, KAN.

I wish to report a case in which death was directly attributable to "Dr. Drake's German Cough Remedy."

I was called to attend a child, aged 4 years, who was in deep coma. Breathing was stertorous, skin cyanotic, pulse intermittent and almost imperceptible, pupils were deeply contracted, in fact, I saw at once that the child was dying of opium poisoning. On inquiry, I found that the child had had an attack of croup the previous evening and had been given one-half teaspoonful of Dr. Drake's German Croup Remedy every half hour. The child died within an hour after I saw it, and was sick, in all, about twenty-four hours.

This preparation is said to contain three-fourths of a grain of opium to the dose, and the child had been given about half the contents of the bottle—which contained about three ounces—an enormous amount of opium for a child of this age. It is stated on the label that the dose is so small as to be harmless. Were the equivalent in minims or drops of laudanum stated on the label, the public might have a better appreciation of the danger of administering nostrums containing opium. When the amount is expressed in grains it means little except to a physician. In this case the statement that the amount of opium present is so small as to be harmless is little short of criminal.

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SATURDAY, FEBRUARY 15, 1908.

TUBERCULOSIS IN BIRDS.

In view of the marked general interest that now obtains with respect to tuberculosis in all its forms and all its aspects, it may not be without value to recount here the chief facts learned in regard to tuberculosis in birds as the result of extensive investigation in Berlin by Max Koch and Lydia Rabinowitsch.[1] During a period of about two years, beginning in November, 1903, these investigators examined carefully 459 birds at the Berlin Zoological Garden, and in 118 (25.7 per cent.) they found distinct tuberculous changes. The animals belonged to ten different orders of birds, the largest number with tuberculosis being different fowls. In birds tuberculosis is usually situated in the abdominal organs, especially in the liver and the spleen, as well as in the case of fowls in the intestinal tract. A peculiar necrotic substance develops as the end-product of the tuberculous process in birds that corresponds to the caseous material in mammalian tuberculosis. The tuberculous intestinal changes are proliferative rather than ulcerative, and nodules frequently develop in the external layers of the intestine without definite changes to correspond in the mucous membrane. These nodules are the analogue of tuberculous mesenteric nodes in mammals, such nodes being absent from the mesentery in birds. Hence we see that in birds tubercle bacilli may pass through the mucous membrane of the intestine without leaving any lesion in it. As the nodules perforate the mucous membrane tubercle bacilli are eliminated in the feces. In the lungs multiple nodules are most frequently seen. Caseous pneumonic processes are rare and cavity formation was never observed. Tuberculous pericarditis and tuberculous ulcers in the stomach were frequent.

Avian tuberculous lesions are characterized by the immense number of bacilli present and by the special arrangement of the giant cells. The bacilli are found in the center of the caseous masses as well as at the periphery, where they lie mostly in round heaps as the result of being or having been contained within cells. Around the necrotic masses are radially arranged giant cells full of bacilli.

Tuberculosis is, in the main, the result of food infection in the case of birds. At the same time other modes of infection as, for instance, by inhalation and by direct inoculation, may occur. The congenital transfer of tuberculosis is possible, and it has been shown microscopically that tubercle bacilli may be present in the eggs in the oviduct, and tuberculous chickens have been reared from infected eggs. In zoological gardens it is possible that tuberculosis may be conveyed to birds in the bodies of rats and mice which are given birds as food. Infection with human tubercle bacilli takes place relatively seldom in zoological gardens, much more rarely than is the case with birds that are kept in houses, such as parrots. The principal source of the infection of birds is tuberculous materials from other tuberculous birds, especially intestinal discharges with which the food becomes contaminated. As regards the bacilli isolated from tuberculous lesions of birds, it must be said that constant differences from the bacilli of mammalian tuberculosis were not demonstrated. In some cultures the bacilli resembled very much the mammalian type, and from the organs of three birds typical human bacilli were isolated. Parrots are susceptible to mammalian as well as to avian tuberculosis, and this seems to be true also of canaries. Small laboratory animals are easily infected with avian tuberculosis, which may be transferred also to cattle and goats, and several mammals (mice, rats, cattle, swine, horses, apes) have been found spontaneously infected with this form of tuberculosis, and bacilli of the avian type have been demonstrated also in man.

From their investigations Koch and Rabinowitsch find, as a general conclusion, that the bacilli of mammalian and avian tuberculosis can not be regarded as distinct species, but only as varieties of the same species adapted to different animal species.

1. Virchow's Archiv, 1907, Supplement to vol. cxc.

THE EYE SYNDROME IN DEMENTIA PRÆCOX.

It is highly gratifying to note the recent advancement which psychiatry has taken in this country under the inspiration of Kraepelin's teaching. It is hoped, however, that the science will be divested of its cant phraseology or that glossaries will be inserted in textbooks to give the general practitioner more definite insight into the meaning of terms used which have been taken over bodily from the German psychologists. No one study is of greater moment in psychiatry to-day than the solution of the problem of dementia præcox. The real pathogenesis of this dementing disorder of adolescence would seem to depend in no small degree on physical causes. The evidence for its autotoxic character is steadily increasing since Marro advanced the theory in 1900. Thus the urine studies show very defective elimination, and fully one-half of the subjects of dementia præcox die of tuberculosis. Certain toxic dermatoses, such as erythemata, and vasomotor paresis seen in chronic intestinal putrefaction, occur very frequently in dementia præcox. Some additional facts are at hand as shown in the coexistence of psychic

excesses, neurasthenia with states of autointoxication. The blood studies show a toxic state, as summarized by Blin[1] in his monographic consideration of the autotoxic nature of dementia præcox.

Finally, it would seem from the study of Pierce Clark and Tyson[2] on the eye in dementia præcox, which is also a definite contribution to the autotoxic character of the disease, that we have at hand a new eye syndrome peculiar to this mental disorder. As a result of several years' study of the eye in dementia præcox, these observers are able to report a constant finding in the optic disc, pupil and corneal sensibility. In brief, the changes may be summarized as those of a moderate degree of congestion and hyperemia of the disc (perineuritis of optic nerve), passing over into that of optic atrophy. The pupillary sensory reflex is negative, as well as the psychic pupillary reflex. The Piltz reflex, that is, an alteration in the size of the pupil on attempts to close the eye when the lids are held open, is also negative. The visual fields are all concentrically contracted, the average being but 10.6 degrees. Corneal sensibility is markedly diminished. These changes in discs, pupils, visual fields and corneal sensibility were found by Clark and Tyson in no other psychosis. The disc changes in dementia præcox, however, had most resemblance to those seen in toxic amblyopia of tobacco, lead and alcohol. The cases which were studied embraced individuals who used alcohol and tobacco moderately or to excess, as well as abstainers. The distinguishing feature of toxic amblyopia, a central scotoma for red, was found in but one patient with dementia præcox and he had an alcoholic history. Inasmuch as the disc changes in the first stages resembled somewhat those seen in ordinary intestinal toxemia, they repeatedly examined the discs in a number of their cases while the patients were under active hygienic treatment by free catharsis, intestinal antiseptics, baths and dietetic regulations. A marked degree of betterment was noticed in the congestive margins of the discs, but the central edema and transition pallor endured. The residual harm evidently could not be overcome. This fact may throw some light on the clinical observation that dementia præcox has remissions and arrests, but rarely a cure.

The authors believe their eye syndrome is of diagnostic and prognostic importance, as it varies in intensity with the mental disorder *pari passu*. There can be little doubt that the optic nerve lesion described by these authors is quite in accord with our best knowledge of the pathologic anatomy of dementia præcox, as given by Alzheimer, in other tracts of the brain of which the optic nerve is really an analogue. The early vascular changes in dementia præcox ought to be studied still more thoroughly, as the initial attacks of the toxin from gastrointestinal putrefaction ought to be registered first there. Definite and conclusive proof of the existence of the new eye syndrome in dementia præcox can be furnished only by microscopic analysis, which we understand is in process of completion.

1. "La démence précoce," Thèse de Paris, 1905.
2. "Preliminary Report on the Significance of the Ocular Signs and Symptoms of Dementia Præcox as Observed in a Series of 115 Consecutive Cases," Proceedings N. Y. Psychiatrical Soc., Nov. 6, 1907.

SUBCONSCIOUS IDEAS IN THERAPEUTICS.

Dr. Scripture's article in this issue of THE JOURNAL[1] brings out prominently one desideratum in internal medicine, viz., the utilization of the methods of experimental psychology for therapeutics. Hitherto what has been done in this line has had comparatively little direct practical utility except to some extent in diagnosis, at least so far as the use of accurate recording instruments is concerned. Psychologic therapeutics has been largely, if not entirely, a rule-of-thumb affair, and what has been gained by accurate measurements of reaction time, etc., in morbid conditions in diagnosis has not been directly applied to the treatment of disease.

Within the past three or four years, however, Jung's studies have not only thrown new light on hysteria, but have actually led to a practical method of its cure in the large proportion of those cases in which the special emotional complexes on which it depends can be thus determined. Hysteria is defined by Münsterberg as "strangulated emotion" which disappears when the forgotten emotional ideas are brought to conscious expression. This does not, of course, sum up all the pathology of hysteria, but it at once suggests the possibility of the inhibitions of the repressed ideas or associations in consciousness being the direct cause of the morbid manifestations. This is Münsterberg's interpretation, and, so far as his definition applies, it gives as probable an explanation of the mechanism of the cures reported as any that can be offered at present. Of course, the underlying weakness that makes such a cause effective still exists, and in the more serious conditions of actual insanity, based on graver lesions or defects, a like favorable result can hardly be expected. It is, however, a great gain to have a treatment of hysteria that is based on scientific principles of physiologic psychology and the use of instruments of precision (for a stop watch may be thus designated with propriety when used for the purpose of testing time reactions in morbid states), recognizing, of course, the possibility that there may be types of hysteria not amenable to this treatment. Whether the method will be found of therapeutic value in other diseases is not yet shown, but there are so many disorders in which the hysterical element is a more or less prominent and important complication that it seems not improbable that a yet wider use may be made of it than has thus far been attempted. It may even develop some valuable results in the treatment of insanity.

The use of the method for the detection of crime alluded to at the close of Dr. Scripture's article has been recently[2] illustrated by Professor Münsterberg in a popu-

1. Page 521.
2. McClure's Magazine, October, 1907.

lar article. This, of course, is not particularly a matter of medical interest, but Münsterberg sees in it the greatest utility of the discovery. Whether, as he seems to think, it will completely displace the objectionable methods of the so-called "third degree" or not is uncertain; it may be found to have serious limitations when its details become known to clever criminals and they are prepared to meet and resist the tests. He shows, however, that it can be successfully used to elicit concealed facts of crime or vice, and its utility may yet come to be regularly recognized in the administration of justice.

We have said nothing about the value of such psychologic methods in diagnosis; they are self-evident. The time is coming when, as Dr. Scripture anticipates, the physician will learn his dependence on accurate psychologic insight in the diagnosis of many diseased conditions that, for the lack of this insight, have heretofore been the opprobria of medical science. Not every one will have the natural qualifications or have the time or opportunity to acquire any special skill in every phase of the work; there may arise, as Scripture suggests, a class of psychologic diagnostic specialists, but the simple methods he describes of determining the underlying fixed ideas in hysteria would seem to be available for nearly every educated physician.

SUPPLEMENTAL SCHOOLS FOR MENTALLY BACKWARD CHILDREN.

It is a sign of great humanitarian progress that the mentally backward child is no longer to be neglected in the public school system of this country. The advantages of a special institution training are about to be given a broader significance and application, and special training is to be brought nearer the home. For some time it has been possible for the rich to send their unfortunate children to special schools and also to employ trained teachers to give instruction in their own homes. But the less fortunate poor have had no such advantage. At best they have been permitted to send the mentally backward child to a state institution too remote and inaccessible for visitation. The result has been only too frequently that such a child has remained at home without school training, neglected, untaught and left to drag out a miserable existence, doomed at the outset to a life of inutility and intellectual darkness. For many years in Germany, England and Switzerland secondary or supplemental schools have been in successful operation. The purely mental training has been completely amplified by a thorough and detailed system of industrial education, an "intellectualization of the senses" has been aimed at. During the past four years similar adjunct or supplemental schools have been opened in this country. About fifty schools of this class are at present in active operation in New York City. It is generally recognized that these children need a separate and special system of school instruction, and it is obviously unjust to the normal child that he should be made to associate with the mentally backward child and *vice versa*.

As has been pointed out,[1] these supplemental schools should serve as clearing houses, as it were, for the whole class of mentally backward children. Thus, children only slightly backward may be so trained by careful study of their special lack that a short course of training may result in their being quickly returned to the normal school again; those children more lacking may require continued instruction in the special schools, while the obvious and proved cases of feeble-mindedness, after careful study and classification, will be sent at once to the proper state institution for this particular class. In order to make these schools efficient it is necessary that the teachers in charge should be specially trained for the work in hand. To this end it has been suggested by some of the public school and charity authorities that all teachers of the supplemental schools should have a preliminary qualification of attendance at a lecture course on the theory and method of teaching mentally deficient children, such as that given at the New York school of pedagogy; and that this didactic instruction be followed by a complete and thorough practice course in teaching mentally backward children in some state institution. A commission to consider the ways and means and the practical method of establishing a normal school for teachers of these children has already taken up this problem.[2] The idea is unique. No country has yet viewed the matter in so comprehensive a light.

This whole plan of special schools in connection with the public school system appeals to all, especially to the family physician who is so frequently consulted regarding ways and means of obtaining suitable education for these unfortunates. The scheme of proper establishment of these schools in every large city embraces advantages of far-reaching importance, far beyond the mere academic educational issue of completing any one city's public school system.

While it is not possible to say just how many children are in need of these schools, the work already done in Boston, Philadelphia, Baltimore and New York discloses the fact that the numbers are far beyond what is popularly supposed. It is noteworthy that the great charity movement of the past few years in state care of the insane has left the needs of the great army of backward children unimproved, hence the activity of public school authorities in the present movement. If the effort shows that fewer such children can be properly taught in these adjunct schools the movement will not be without great advantage in the care of these young wards of the state. The need of a more elaborate institutional care will have

1. Report of Commission on Mentally Backward Children in the New York Public Schools, New York County Medical Society, December, 1907. Also address on "The School Training of Backward Children in the New York City Public Schools," by Dr. C. E. Atwood, *New York Medical Journal*, Sept. 7, 1907.

2. Committee for a proposed normal school for teachers of mentally backward children, appointed by Hon. Robert N. Hubbard, Commissioner of Charities, New York City.

been definitely emphasized. In not a few instances it may be safely said that state institution training leaves much to be desired. The public school movement to-day for the mentally backward child can not help but stimulate research all along the line of medical pedagogics both in and out of state institutions. Finally, it will render signal aid in economics by restraining the ignorant, vicious and morally perverse child of the mentally backward group from an after life of pauperism, degeneracy and crime. Present day studies (Kraepelin) prove that fully two-thirds of the petty thieves and tramps are recruited from mental defectives.

NOSTRUM ADVERTISING IN FARM JOURNALS.

An article entitled "Medical Advertising and Guarantees"—stated to be by a "well-known advertising man"—that is in every way as remarkable as it is gratifying, appears in the January issue of *Agricultural Advertising*. The writer, who claims twenty-five years' experience as an advertising man, first sketches the changes that have taken place in the advertising columns of the farm journals during the past five years, particularly in regard to medical advertising. He then indicates the losses inevitably entailed by the exclusion of "patent-medicine" advertisements. Finally, displaying a considerable familiarity with the conditions of public policy and of general ethics that render such exclusion desirable, he asks what prompts the publishers to turn down year after year a small fortune, and suggests the following significant answer: "Perhaps the foresight of these publishers is clear enough to make it apparent that during the next quarter of a century they will be so strongly entrenched in the hearts of their readers that it [their circulation] will more than offset in profit their loss on medical advertising." The agricultural papers whose columns are to-day "closed and locked" against this nostrum advertising, according to the writer, are the *Farm Journal* (which has for years refused all medical advertisements), the *American Agriculturist*, the *Orange Judd Farmer*, and the *New England Homestead*, which have together turned down since 1902 some $50,000 worth of such business, and the *Farm and Home*, which has refused some $60,000 worth during the same period. That these papers, which as a class have perhaps less to fear than most others from the stoppage of subscriptions through objections on the part of readers to any specific class of advertising, and perhaps proportionately more to lose also in advertising returns, should be among the first to stand for clean advertising, is of the greatest credit to them. But to those who have the interests of this movement truly at heart their action is in the highest degree gratifying, not only as a significant example of the writing on the wall, but even more because the class of people mainly reached by such journals, living, as they do, more isolated lives than community workers, are more apt to be misled by plausible mendaciousness and specious suggestion, and, moreover, being dependent for their supplies largely on the mail order system, they the more easily fall victims to the vultures of commerce.

PARATOXIN.

The part played by the liver in protecting the organism against various intoxications, either organic or inorganic in origin, suggested to Gérard and Lemoine the possibility of utilizing the hepatic secretion therapeutically in certain infectious conditions. Having noted the virulency which is exhibited by tuberculous infections in patients suffering from disease of the liver, they first turned their attention to the possibility of favorably influencing the course of this disease by the administration of biliary products, and after some years of experimental work they have published the results of their investigation.[1] The authors state that it is with some hesitation that they submit a new treatment for tuberculosis, but that their results have been so favorable that they feel justified in emphasizing the importance of their discovery and asking that the method be given a wider trial. After some experimenting they have evolved a preparation of bile containing cholesterin and various allied substances, but deprived of the bile pigments, which they call "paratoxin." As repeated trials of this substance on guinea-pigs seemed to show that it possessed distinct virtues as a therapeutic agent in tuberculosis, they proceeded to test it clinically. It is administered by mouth, hypodermically, or by intralaryngeal injection in doses of from one to four cubic centimeters a day, or in larger doses if it is given at longer intervals. No local or systemic reaction has been observed; in fact, it seems to be harmless. From their observations on the 250 patients on whom it was tried, they conclude that paratoxin has a markedly beneficial effect on the course of pulmonary tuberculosis in the first and second stage, the patients improving immediately, both symptomatically and specifically so far as may be demonstrated. Laryngeal tuberculosis and tuberculous enteritis have also been shown to respond satisfactorily to this treatment, but rapidly-progressing or far-advanced processes are less amenable to improvement. Paratoxin is supposed to act by neutralizing the tuberculous toxins and thus giving the organism a better opportunity to cope with the local process, though the possibility of a bactericidal action is considered. The claims of Gérard and Lemoine are conservative in tone and seem to be fairly well supported by the evidence which they present.

WINTER CHOLERA.

Within the past three or four weeks there have been numerous press reports of an epidemic gastric and enteric disorder in rather widely separated localities in the Lake states. In the suddenness of its onset and the severity of its subjective symptoms the designation, "winter cholera," which has been applied to it, seems well chosen. Catarrhal disorders of the digestive tract are not uncommon in cold weather, but they do not usually appear suddenly as epidemics, nor are they usually severe. In Lansing, Michigan, whence the first reports came, a city of about 30,000 inhabitants, the disorder is reported as making its first appearance by

1. Traitement de la Tuberculose par la Paratoxine, Basé sur l'Action Antitoxique du Foie, Vigot Frères, Editeurs, Paris, 1907.

simultaneously attacking many citizens. In about a week the worst was over and there was no immediate mortality. Since then, similar reports have come in from several places in Wisconsin, Ohio, and contiguous states, of what seems to be the same disease—a sort of gastroenteritis attended with nausea, vomiting, and, in severe cases, collapse. The most natural supposition would be that the epidemic was due to impurity in the water supply, though at Lansing, where the state board of health has investigated the matter, this is disproved. Another possibility suggested is that it might be an exacerbation of a special gastrointestinal form of influenza. The epidemic bears a close resemblance to a similar one that occurred in some parts of the country in the winter of 1880-1, and which was discussed in the *Bulletin of the National Board of Health* that existed at that time. There was the same epidemic onset and the gastrointestinal and other symptoms were apparently identical, but while the severity of the attack was usually quickly over, there were many relapses. At that time epidemic influenza had not reached this country and therefore received no credit for the epidemic. Being prior to the days of medical bacteriology, its cause was not investigated. This older epidemic cut no figure directly in the mortality reports, but undoubtedly had an indirect effect which was later attributed to other causes, and the same will probably be the case to some extent with the present disorder.

STATE AND INTERSTATE SANITATION.

A bill was recently introduced in the Ohio legislature giving the state board of health supervisory powers over water courses, public waterworks and sewage disposal. There can be no question as to the propriety and urgent need of some such measure in every state not already thus provided for. The states of the middle West, with their small amount of waste lands, densely settled rural districts and numerous large towns, stand in special need of such legislation, which will naturally be vigorously opposed by local and private interests now profiting from the insanitary conditions. In Illinois, for example, in 1897 there were fifty-two municipalities obtaining their public water supply exclusively from surface drainage, mostly from slowly-running streams carrying the sewage of manufacturing villages. This was the figure given by the U. S. Geological Survey ten years ago, and it is not likely that conditions have materially improved since then. Other states are no better in this respect and some may be worse. State legislation, moreover, while a necessity and capable of doing an immense amount of good, will by no means meet all the needs; there must be interstate cooperation or a federal control of sanitary matters to a large extent to insure normal sanitation of water supplies. As was well said by Dr. H. R. Mill,[1] when speaking of English conditions in his presidential address before the Royal Meteorological Society: "Care for the water supply of the country, coming as it does from the air that knows no boundaries, across the land, is by no means a parochial, but in the fullest sense a national matter, and should be dealt with in the interests of the nation as a whole. . . ." This applies also to this country, where matters of health as well as of wealth are so extensively involved. Up to a recent period, as shown by Dr. Bracken,[2] less than half a dozen states had approximately adequate laws on this subject and there had been hardly any active cooperation for the interstate control of water supplies. It is probably true that large rivers, flowing long distances without local contamination, tend to purify themselves, but when flowing through populous districts this self-purification can hardly be relied on, and the Ohio river, bordering five states, has recently been described as "a thousand miles of typhoid." In case of smaller streams, under like conditions, a similar epithet is even more likely to be appropriate. How far the general government can take up this matter may need to be settled by court decisions, but there are some ways that ought to be directly practicable. The state board of health of Georgia has recently taken a step in this direction by passing resolutions favoring the establishment of the Appalachian National Forest Reservation, which will also, it is said, be favored by the authorities of other southern states. If the general government can be given the control of the head waters of the streams of a large portion of the country it ought to simplify many of the questions that would inevitably arise if the matter were left to the state authorities alone.

1. Nature, January 23.

THE AUTOMOBILE NUMBER.

The Automobile Number of THE JOURNAL, March 7, 1908, we believe, will be an interesting issue. In response to the announcement in THE JOURNAL, in which we asked for experiences, we have received many communications — bright, thoughtful, analytical — which seem to present all the various phases of automobile experience. Many readers write us that they look forward to this issue with great anticipation, because our previous automobile number not only was interesting but proved of practical value to them in connection with their choice of a machine. There is room for a few more communications—the more terse and pointed the better—but they should be received within the next seven days. We can also use more illustrations. It is preferable that the illustrations show the machines in local surroundings and ready for the road, and it is most important that they may be clear and sharp.

Medical News

CALIFORNIA.

The Plague Situation.—A telegram from the special correspondent of THE JOURNAL in San Francisco, dated February 11, states that one case of human plague was verified February 8. The citizens are very active, and a large fund is being raised to be placed at the disposal of Surgeon Rupert Blue of the P. H. and M.-H. Service for additional rat catchers, traps, etc. Additional sanitary inspectors to be placed under the orders of Dr. Blue will also be appointed, and the sanitary laws will be rigidly enforced. The law committee, consisting of Drs. Herbert C. Moffitt and Philip Mills Jones, and Captain Goodall, on February 11, saw the mayor and the president of the police commission, who agreed to swear in all sanitary in-

2. THE JOURNAL A. M. A., Aug. 24, 1907, p. 668.

spectors as special police, and to make the police force cooperate in the strenuous cleaning up of premises, in the enforcement of the garbage ordinances, which have heretofore been dead letters, and in the condemnation of insanitary premises. Results thus far from the action of the state society committee far exceed expectations, and a large number of citizens are now thoroughly aroused to the present danger, and are devoting their time to impressing on others the importance of the most energetic measures. C. C. Moore, president of the chamber of commerce, is chairman of the executive committee of the citizens' health committee, and is devoting his entire time to this work. On February 11 the wholesale butchers agreed to make all abattoirs, etc., rat proof, and to catch and kill rats in their territory. The bounty on rats has been increased to 25 cents for males and 50 cents for females. In general, it may be said that the progress made in the conflict against bubonic plague in San Francisco is encouraging.

COLORADO.

Cornerstone Laid.—The cornerstone of the Swedish Sanatorium for Consumptives, Englewood, was laid with impressive ceremonies recently. Governor Buchtel was the principal speaker, and complimented the Swedish people on their work in accomplishing their plans for the completion of a hospital for consumptives of their nationality. The first building of the sanatorium is to cost $7,000.

Society Meetings.—At the annual meeting of the Las Animas County Medical Society, held in Trinidad, January 3, the following officers were elected: Dr. Perry Jaffa, president; Dr. George W. Robinson, vice-president; Dr. E. W. Fox, secretary, all of Trinidad, and Dr. William Hutchinson, Delagua, treasurer.——At the annual meeting and banquet of the Lake County Medical Association, held in Leadville, January 2, Dr. Henry A. Calkins was elected president, and Dr. E. T. Boyd, secretary, both of Leadville.——At the annual meeting of the Pueblo County Medical Society, held in Pueblo, January 6, the following officers were elected: President, Dr. J. J. Pattee; vice-presidents, Drs. Joseph E. Pearis and William F. Rich; librarian, Dr. Wilbur W. Bulette; censor, Dr. Alexander T. King, and delegate to the state society, Dr. Robert C. Robe, all of Pueblo.——At the annual meeting of the Fremont County Medical Society, held at Florence, the following officers were elected: President, Dr. Charles H. Graves, Canon City; vice-president, Dr. William A. Williamson, Rockvale; secretary-treasurer, Dr. Royal C. Adkinson, Florence, and Dr. James W. Rambo, Florence, delegate to the state society.——The annual meeting of the City and County of Denver Medical Society was held January 7; Dr. George H. Stover was elected president; Dr. Edmund W. Stevens, vice-president; Dr. William H. Davis, treasurer; Dr. M. Newton McGiffin, financial secretary, and Dr. Carl G. Parsons, recording secretary.

DELAWARE.

Addition to State Hospital.—The addition recently built to the Delaware State Hospital, Farnhurst, has been named the John J. Black Cottage. The superintendent in his report showed a population of 411 in the institution, an increase of 5 males and 4 females during November.

Society Election.—At the annual meeting of the Newcastle County Medical Society, held in Wilmington, the following officers were elected: President, Dr. John Palmer, Jr.; vice-president, Dr. Joseph P. Pyle; secretary, Dr. Harold L. Springer (re-elected), and treasurer, Dr. Samuel C. Rumford (re-elected).

DISTRICT OF COLUMBIA.

For Consumptives.—A new department has been established at the Georgetown University for the examination and treatment of tuberculosis. The clinic is under the charge of Dr. William C. Gwynn. It is conducted in connection with the outdoor department of the hospital and in cooperation with the committee on the prevention of tuberculosis.

Insane Hospital Report.—Dr. William A. White, superintendent of the Government Hospital for the Insane, Washington, in his report for the last fiscal year, states that there were 46 more patients remaining in the hospital at the end of the year than at the end of the fiscal year of 1906. The daily average for the year was 27 more. During the year there were admitted 619, making a total of 3,167 under treatment. Of this number 409 were from civil life and 210 from the public services. During the year 571 were discharged, as follows: 177 recovered; improved, 134; unimproved, 40; died, 216, and declared not insane, 3. During the year a psychologic laboratory has been established in the institution. This is a step toward the creation of a scientific department for the study of mental diseases.

IDAHO.

Society Meeting.—At the annual meeting of the North Idaho Society, held in Lewiston, the following officers were elected: President, Dr. John F. Hurlburt; vice-president, Dr. Charles C. Phillips, and secretary-treasurer, Dr. Frank L. Hinkey, all of Lewiston.

Tuberculosis Exhibit.—Dr. Lucien P. McCalla, Boise, has taken up the work of organizing a committee in Idaho to prepare a creditable exhibit and to select delegates to represent the state at the International Congress on Tuberculosis in Washington, in September next.

Personal.—Dr. Malcolm McKinnon, Sand Point, has been appointed physician of Bonner County.——Dr. Hugh V. Scallon, formerly of Eau Claire, Wis., has been made mayor of Coeur d'Alene for the third term.——Dr. W. F. Smith, Boise, is taking a postgraduate course in New York City.

ILLINOIS.

Unlicensed Practitioner Fined.—Emma Howe, Granite City, was charged with practicing medicine without a license. It is reported that she failed to appear, that judgment was rendered against her for $100 and costs and the fine paid.

Verdict for Physician.—In the case of E. L. Wilson vs. Dr. James A. Marshall, Pontiac, who is alleged to have made false representations to the plaintiff in order to get him to submit to a surgical operation, the jury on January 26 brought in a verdict for the defendant.

Antituberculosis Association.—A meeting of colored people of Chicago was held February 9, at which an organized movement was begun to check tuberculosis. Dr. A. W. Spriggs was elected president; Dr. Augustus W. Mercer, vice-president; Dr. A. Wilberforce Williams, secretary, and Dr. George C. Hall, treasurer.

Injured and Ill.—Dr. James F. Percy, Galesburg, while cranking his automobile January 25, sustained a compound fracture of the right arm. Pending the recovery of the use of his arm he will travel in Europe.——Dr. Augustus K. Van Horn, Jerseyville, sustained painful injuries in a runaway accident January 30.——Dr. Ralph H. Herbert, Poplar Grove, is seriously ill with pneumonia.

Epidemic Diseases.—At Franklin 8 cases of smallpox are reported.——On account of the prevalence of smallpox in the neighborhood of Mount Pleasant, the public school has been ordered closed.——The smallpox at Pleasant Plains has abated in the last few days.——Fire on January 30 destroyed the Peoria Isolation Hospital. The six smallpox patients were rescued with difficulty, and later were placed in temporary quarters in a houseboat.——A disease believed to be scarlet fever is causing much concern at Lacon.——Several new cases of smallpox are reported in Virden and Chatham.——The public schools at Lewistown have been ordered closed on account of the prevalence of smallpox.——An epidemic of diphtheria is reported at Whitehall.

KENTUCKY.

Fined for Selling Liquor on a Prescription.—According to a decision handed down by the Court of Appeals, whisky can not be sold as medicine in a local option county in the state. James Hutson is said to have been fined $60 by a jury in the Carlisle Circuit Court for selling whisky on a prescription, to be used for a child threatened with pneumonia, although the testimony of the physician and the father of the child showed that it was to be used as a drug.

Hospital Notes.—The annual report of St. Anthony's Hospital, Louisville, shows that in 1907 905 patients were admitted, 447 of whom were charity patients.——The mayor of Louisville announces that a new city hospital will be built very soon, the money for the purpose being taken out of the general fund.——The new hospital at Maysville, given to the city by Mrs. Mary P. Wilson, was recently opened to the public.——The tuberculosis annex to the Louisville City Hospital will, it is hoped, be ready for occupancy, March 1.

LOUISIANA.

Hospital Notes.—The New Orleans Health Association has decided to devote its funds and efforts toward the building of an isolation hospital, which is greatly needed in the city. The association has about $30,000 in its treasury.——A new hospital is to be erected in New Orleans, operated by the Woman's Home Missionary Union, to be known as the Presbyterian Hospital.

Against Tuberculosis.—At the first annual meeting of the Louisiana Anti-Tuberculosis League, Dr. Edward L. McGehee, New Orleans, was re-elected president, and Dr. J. George Demp-

sey, treasurer.——The contractors for the sanatorium of the league report that seven cottages are completed.——Mr. M. O. Nelson, a St. Louis philanthropist, has offered to defray the expenses of the tuberculosis sanitarium at St. Tammany Parish for three months.

Society Meetings.—At the annual meeting of the Orleans Parish Medical Society the following officers were elected: President, Dr. Amedee B. Granger; vice-presidents, Drs. William H. Seemann, Richard W. Salter and C. W. Allen; secretary, Dr. Edward M. Hummell; treasurer, Dr. Sidney K. Simon; librarian, Dr. Hober Dupuy, and directors, Drs. John J. Archinard, William W. Butterworth and Eugene H. Walet.——At the annual meeting of the Rapides Parish Medical Society, held in Alexandria, January 6, the following officers were elected: President, Dr. G. M. G. Stafford, Alexandria; vice-president, Dr. Alexander H. Biscoe, Tioga; secretary, Dr. Arthur R. Chopin, Lamothe, and treasurer, Dr. F. V. Gremmillion, Alexandria.——At the annual meeting of the Bienville Parish Medical Society, held in Gibsland, January 17, the following officers were elected: President, Dr. Oliver O. Hamner, Bienville; vice-president, Dr. Claude C. Allums, Manning, and secretary-treasurer, Dr. F. R. Singleton, Arcadia.——At the annual meeting of the Tangipahoa Parish Medical Society, held in Amite City, January 12, the following officers were elected: President, Dr. H. G. Morris, Kentwood; vice-president, Dr. Glenn J. Smith, Amite City, and secretary, Dr. James L. Lenoir, Amite City.——At the annual meeting of the Shreveport Medical Society the following officers were elected: President, Dr. James C. Willis; vice-president, Dr. J. M. Bodenheimer; secretary, Dr. D. A. Mohler, and treasurer, Dr. William L. Egan.

MARYLAND.

Personal.—Dr. Charles A. Wells, Hyattsville, sailed for the Orient February 6.——Dr. John P. Briscoe, Washington, D. C., has been appointed temporary resident physician of the Maryland Agricultural College, College Park, vice Dr. William O. Eversfield, deceased.

Tuberculosis Exhibit.—The traveling tuberculosis exhibit of the Maryland Association for the Prevention and Relief of Tuberculosis will be held at the Hebrew Friendly Inn and Aged Home, Baltimore, February 10 to 17. During this time public lectures will be given each afternoon and evening.

Baltimore Personal.—Dr. William F. Lockwood, Baltimore, is ill at his home with diphtheria.——Dr. William D. Booker, Baltimore, has been critically ill with pneumonia.——Dr. Howard A. Kelly has returned from a six weeks' trip to Mexico.——Prof. George M. Stratton, head of the department of experimental psychology at the Johns Hopkins University, has resigned to accept the directorship of the department of psychology in the University of California.

Library Site Purchased.—The Medical and Chirurgical Faculty of Maryland has purchased a site 60x234 feet for the use of the new library building on Cathedral Street, Baltimore, for $22,000. Only the leasehold interests were bought, the lot being subject to a ground rent of $123.50 per year. Professor Welch will address the legislature February 12 in favor of a bill making an appropriation of $100.000 toward the library fund. The druggists of Baltimore have raised $5,000 for the building.

MICHIGAN.

Illegal Practice.—Urban Hartung, Detroit, accused of practicing medicine without registration, is said recently to have been found guilty.

Personal.—Dr. Charles B. Stockwell, Port Huron, is critically ill with pneumonia.——Dr. Alexander W. Blain, Jr., has been appointed senior house physician of Harper Hospital, Detroit.——Dr. Walter E. Wilson, Grand Ledge, was elected president of the State Board of Pardons January 14.

Consumptive Sanatorium Opened.—The State Tuberculosis Sanatorium at Howell recently opened, has at present 11 male patients. The building for women is almost completed, and this with a third building in process of erection, will give a total accommodation of 38 patients for the sanatorium.

Communicable Diseases.—Menominee is suffering from an epidemic of typhoid fever and pneumonia.——Smallpox is reported in one of the lumber camps 20 miles west of Cadillac.——The quarantine on the state prison, Jackson, established on account of the presence of smallpox, has been raised.——Burr Oak has 4 cases of smallpox and Calhoun County 17.——Monroe Center is reported to have several cases of smallpox, and the public school has been closed.——Scarlet fever is said to be epidemic at Kingsley.——Several cases of scarlet fever are reported from Shepherd, where schools have been closed and public gatherings interdicted.

MINNESOTA.

New Hospital.—The proposed Sheltering Arms Hospital, Minneapolis, plans for which have just been completed, is to stand in Mississippi Parkway between Lake Street and Minnehaha. It is to be a brick structure and will cost about $40,000.

Personal.—Dr. I. Daniel Webster, Mankato, at present in San Diego, Cal., has almost recovered from his recent illness.——Dr. Gustav W. Barck, health officer of Albert Lea for 14 years, has resigned.——Dr. D. Edmund Smith has been elected superintendent of the Asbury Hospital, Minneapolis, and Dr. Willard B. Pineo, secretary.——Dr. J. Warren Little has resigned from the directory of the Asbury and Rebecca Deaconess Hospital and Home, Minneapolis.——Dr. Arthur Sweeney, St. Paul, has been visiting in Lawrence, Mass.——Dr. Peter M. Holl, Minneapolis, has been elected city physician, vice Dr. Ole E. Linjer, deceased.——Dr. John F. Fulton, St. Paul, has resumed active practice.

Contagious Diseases.—There are said to be about 24 cases of diphtheria among the inmates of the state reformatory, St. Cloud.——In order to prevent the spread of scarlet fever, the board of education of Minneapolis has decided to burn at least 750 text-books in use in the Kenwood and Douglas schools.——Scarlet fever is reported to be epidemic in Preston.——Several cases of hemorrhagic smallpox have been discovered in St. Paul.——In Monterey and Triumph 116 cases of smallpox are reported, and the inspector of the state board alleges that no attention has been given to the matter by the local boards of health.——Smallpox is reported to be prevalent in Lake Prairie township.

MISSOURI.

Permit Refused.—The board of health of St. Louis on January 9 is said to have refused to grant a permit to the Hippocratian College to conduct a hospital and dispensary.

Smallpox.—A number of cases of smallpox are reported in Bucklin and Hart.——Several cases of smallpox are reported in Johnson and Lafayette counties.——Kansas City has 20 smallpox cases in the Isolation Hospital.

Fire in Epileptic Colony.—Cottages B and C at the State Colony for the Feeble-minded and Epileptic, Marshall, were damaged to the extent of $35,000 by a fire, January 19. The patients in the two cottages were removed without injury.

Personal.—Dr. Charles B. Simcoe, St. Joseph, has been elected superintendent of the State Colony for the Feeble-minded and Epileptic, Marshall, vice Dr. William L. Whittington, term expired.——Dr. Joseph E. Dibble has been elected president of the colored people's branch of the Kansas City Society for the Relief and Prevention of Tuberculosis.

Elections.—At the annual meeting of the North St. Louis Medical Society, held January 14, Dr. Henry J. C. Sieving was elected president; Dr. Andrew A. Henske, vice-president; Dr. Henry C. Niebrugge, secretary, and Dr. Albert F. Koetter, treasurer.——The St. Louis Society of Internal Medicine was incorporated January 19. Dr. Gustav Baumgarten was elected president; Dr. Washington E. Fischel, vice-president and Dr. Elsworth Smith secretary-treasurer.

Hospital Notes.—The new hospital for the treatment of tuberculosis patients under the direction of the authorities of Kansas City, is to be erected on high land near Leeds. The estimated cost of the structure is $6,500 and the building is to be constructed from native stone with thatch and stucco.——The Kansas City Postgraduate Medical School and Hospital, formerly occupied by the Medico-Chirurgical College, is now ready to receive patients. The hospital has accommodations for 60 patients.——The addition to the Ensworth Hospital, St. Joseph, is nearly ready for occupancy. The improvement, when completed, will provide accommodation for about 40 more patients, making the capacity of the hospital about 90.

The Finger-Licking Habit.—At a meeting of the Medical Society of the City Hospital Alumni of St. Louis, held February 6, the following preamble and resolutions relative to the habit of finger-licking were adopted and copies ordered to be sent to the postmaster general, postmaster of St. Louis, St. Louis health department, and the daily and medical press:

WHEREAS, The specific organisms of serious diseases may be present in the mouths of persons who apparently are in a fair state of health. The secretions from the posterior nares, throat and mouth supply a means whereby the transfer of such organisms to other persons and things is facilitated. Next to promiscuous spitting, the practice of habitual insalivation of the fingers by those harboring such organisms affords the readiest means of conveying infection to others. Healthy persons may infect themselves by germs carried by their fingers into their own mouths. Money,

papers, books, and other articles that are constantly passing from hand to hand have been found to carry the active germs of infectious diseases. Employés addicted to this habit who, in the performance of their duties as stamp sellers, postmen, clerks, cashiers, salespeople, waiters, conductors, etc., are necessarily in contact with the public, and who persist in so doing after notice and warning, should be deprived of their positions as thereby constituting a menace to the general health. Sanitary and medical condemnation of the practice of finger licking rests on the proved fact that the bacteria of many of the most virulent diseases are often abundantly present in the secretions of the human throat and mouth, even when no outward evidence of danger appears; Therefore be it

Resolved, by the Medical Society of City Hospital Alumni, of St. Louis, that the attention of the Postmaster General, and of the Postmaster of St. Louis be respectfully directed to the practice of the objectionable habit of digital insalivation among some of the employés of the postoffice, with request that effective measures be taken to protect the public against danger from such sources. And be it further

Resolved, By the Medical Society of City Hospital Alumni of St. Louis, that the St. Louis Health Department be respectfully requested to investigate and publicly report on the prevalence of the habit of finger licking among employés of departments, corporations and concerns serving or catering to the people of St. Louis in order that warning may be given of the risks to health incurred by patronizing places, public utilities, and establishments where such an unclean and dangerous practice is permitted.

MONTANA.

Personal.—Dr. Charles K. Vidal, Belt, has been appointed physician of Cascade County.——Dr. Edwin W. Spottswood, chief surgeon of the Northern Pacific Hospital, Missoula, has resigned, and has been succeeded by Dr. James P. Aylen, Sheldon, N. D.——Dr. Charles A. Brady, city physician of Great Falls and Cascade county, is reported to be seriously ill at the Columbus Hospital, Great Falls.

Communicable Diseases.—A smallpox case is reported at Siphon and a second from Sommers.——A woodchopper from one of the camps near Emory is reported to be suffering from smallpox at Deer Lodge.——Two cases of smallpox are reported in Missoula.——There have been 5 cases of spinal meningitis in Missoula, with 3 deaths.——Influenza and pneumonia are said to be extremely prevalent in and around Missoula.

Society Meetings.—At the annual meeting of the Missoula County Medical Society, held in Missoula, January 25, the following officers were elected: Dr. John J. Buckley, president; Dr. George T. McCullough, vice-president; Dr. F. D. Pease, secretary; and Drs. William P. Mills, Edwin W. Spottswood and Edgar F. Dodds, delegates to the state association, all of Missoula.——At a meeting held in Helena, January 22 and 23, the Montana Public Health Association was organized with the following officers: President, Dr. Creswell T. Pigot, Butte; vice-presidents, Drs. Clyde W. Jump, Bozeman, and J. W. Stith, Miles City, and secretary, Dr. Thomas D. Tuttle, Billings.

NEBRASKA.

Personal.—Dr. Ernest Kelley, Omaha, has been appointed assistant physician and pathologist of the State Hospital for the Insane, Norfolk.——Dr. Clifford W. Waldren, Beatrice, has been reappointed a member of the board of commissioners for the insane.——Dr. John R. Gray, Osceola, has been elected physician of Polk County, vice Dr. L. Matt Shaw.

Communicable Diseases.—At McCook 28 cases of smallpox are reported and 5 cases at Bartley. In both places the schools have been ordered closed, compulsory vaccination has been instituted, and public gatherings have been prohibited.——Influenza is reported to be epidemic in Bellevue College, Beatrice. ——On January 30 there were 7 smallpox patients in the Isolation Hospital Lincoln.

Hospital News.—The commissioners of Douglas County have decided to take immediate steps to build the new tuberculosis ward of the county hospital.——The Wise Memorial Hospital, Omaha, was dedicated with impressive ceremonies, February 2. The medical staff for the year consists of Drs. Oscar S. Hoffman, Wilson O. Bridges, Robert A. Gilmore, Abraham Romm, James S. Goetz, Albert P. Condon, August F. Jonas, John E. Summers, Jr., Byron B. Davis, Charles C. Allison, J. C. Moore, Charles Rosewater, Palmer Findley and Frank S. Owen.

NEW MEXICO.

Sanatorium Opened.—The Fraternal City Sanatorium at Alamogordo has been completed and 17 patients are already installed. The institution comprises three buildings, with a capacity of 150 patients.

Society News.—At the monthly meeting of the Bernalillo County Medical Society, held in Albuquerque, December 4, the following officers were elected: President, Dr. Celia W. Taylor-Goodman; vice-presidents, Drs. Lucien G. Rice and John A. Reidy; secretary, Dr. John R. Haynes; treasurer, Dr. Eligio Osuna, and censors, Drs. James H. Wroth and Percy G. Cornish, all of Albuquerque.——At the annual meeting of the Grant County Medical Society, held in Silver City, December 28, the folowing officers were elected: President, Dr. George K. Angle; vice-president, Dr. William J. Hammer, and secretary-treasurer, Dr. L. W. Peters.

NEW JERSEY.

Personal.—Dr. Isaac N. Griscom, Ocean City, has been elected vice-president of the State Drainage Association.——Dr. Harry Jarrett, Camden, is critically ill at his home with pneumonia.

Diphtheria and Scarlet Fever.—The report of the state commissioner of charities, Dr. George B. Wight, shows that diphtheria is increasing in the reformatory at Rahway. Thus far 130 cases have been reported. This is about one-third of the population of the institution. No deaths have as yet resulted. ——Dorchester reports an epidemic of scarlet fever, which has caused the closure of the public schools.

Vital Statistics.—During the month ended January 15 there were 3,381 deaths reported to the bureau of vital statistics. Of these 411 were due to pneumonia, 409 to diseases of the nervous system, 360 to diseases of the circulatory system, 326 to tuberculosis, 273 to diseases of the respiratory system, 255 to nephritis, 215 to diseases of the digestive system, 115 to cancer, 70 to diphtheria, 49 to typhoid fever, 39 to scarlet fever, 7 to whooping cough and 6 to measles.

Election of Officers.—The following officers were elected at the annual meeting of the Camden City Medical Society, January 7: President, Dr. Edward A. Schellenger; vice-president, Dr. William I. Kelchner; secretary, Dr. Joseph W. Martindale; treasurer, Dr. William H. Pratt; librarian, Dr. J. H. Mills, and historian, Dr. Thomas B. Lee.——At the annual meeting of the Passaic Medical Society, January 10, Dr. Henry H. Brevoort, Lodi, was elected president; Dr. John N. Ryan, Passaic, vice-president; Dr. L. H. Joyce, Passaic, secretary, and Dr. Frederick F. C. Demarest, Passaic, treasurer.

NEW YORK.

New State Society President.—Owing to the refusal of Dr. Edward L. Trudeau of Saranac Lake to act as president of the Medical Society of the State of New York on account of ill health, Section 2 of Chapter 6 of the by-laws makes the first vice-president, Dr. Arthur G. Root, of Albany, become the president for the year 1908.

Hospital for Crippled Children.—Plans for a new hospital which will accommodate 400 crippled or deformed children have been prepared by the board of managers of the New York Hospital for the Care of Crippled and Deformed Children at West Haverstraw. It is said that the hospital will cost $50,000 and an appropriation from Albany is expected.

Nassau Hospital Will Continue.—At a meeting of the executive committee of this institution it was announced that necessary funds had been pledged to continue the work. A plan has been instituted by which forty villages in Nassau and Suffolk counties endow a bed each. The endowment for a bed is $3,000. Ten villages have already acquiesced in the arrangement.

New Measures in the Legislature.—A bill has been presented which would transfer from the local health authorities to the state labor department authority to enforce the mercantile law. ——At the request of the State Board of Pharmacy, a bill has been introduced which seeks to make the state law conform to the federal law relative to false labeling and misbranding of drugs. The enforcement of this proposed law is put in the hands of the State Board of Pharmacy.——A bill is being prepared for presentation to the legislature providing that hereafter surgeons employed in hospitals must have had an experience of at least six months in a hospital before being sent out on ambulance duty.

Dependents Decreasing.—The report of the State Board of Charities says that there are indications that the proportionate number of dependents in the state is decreasing. There are still, however, 30,000 dependent children. Altogether there are 31,328 beneficiaries in institutions subject to visitation by the board. In order that private charities may be properly expended and husbanded, the report urges the legislature that authority be given the board to visit and inspect institutions and corporations conducted as private charities. It is recommended that the state take control of and manage the Randall Island House of Refuge and that only in exigency should the state be taxed to maintain private institutions. It is stated that should the present busines depression continue, the public charitable institutions of the city will be entirely inadequate to meet the requirements of the situation and advises New York City to extend the facilities of the department for the

care of the dependent poor as rapidly as possible. It also advocated the extension of civil-service rules to all almshouses, as this would attract more capable men and women, and would give a higher standard of efficiency.

New York City.

Hospital Needs Aid.—The Eastern District Hospital of Williamsburg, Brooklyn, which was established more than fifty years ago, has made its first appeal for aid to the public. The Ladies' Auxiliary has arranged for an entertainment for the benefit of this institution.

Lowest Death Rate on Record.—The death rate for the month of January was 18.51 per 1,000 population, the lowest since 1898, with the exception of 1906. The rate comes within three one-hundredths of breaking the record. The decrease is largely in infant mortality. The figures for the week ended February 1 are lower than for any other week in the records of the department, the rate per 1,000 being 17.03. There were decreases in the deaths from heart disease, pneumonia and tuberculosis.

Academy Prosperous.—Col. William C. Gorgas, assistant surgeon general, U. S. Army, chief surgeon of the Canal Zone, who delivered the anniversary address at the New York Academy of Medicine on "The Sanitation of the Canal Zone," has been elected an honorary member of the academy. The membership of the academy, which is limited to 1,000, is now completed, and it has so large a waiting list that, at the present rate, three years will elapse before the last applicant can be admitted.

Disposal of Stray Dogs.—The health department has asked the board of estimate and apportionment for $15,000 for the purpose of catching and caring for stray dogs. Dr. Darlington in supporting the request said that there were in the laboratory undergoing treatment 30 persons who had been bitten by mad dogs. Last year $7,000 was expended in caring for such persons. He thought the services of the Society for the Prevention of Cruelty to Animals should be recognized. The question was referred to the legal department.

To Explain Overcrowding.—There will be an exhibit in the American Museum of Natural History for two weeks beginning March 9, for the purpose of showing the conditions resulting from overcrowding. The investigation of the evil conditions which has recently been made will be placed on record. On the second day of the exhibit a discussion will be held, at which Governor Hughes, Mayor McClellan and several of the commissioners of the city will speak. The object of this exhibit will be to recommend that the population spread to the suburbs.

Hospital Election.—At the annual meeting of the governing board of Mount Sinai Hospital the following officers were reelected: Isaac Stern, president; George Blumenthal and Emil Lewis, vice-presidents; F. Asiel, treasurer, and Leo Arnstein, secretary. The president's report shows that, during 1907, 6,173 patients were admitted. There were 177,829 dispensary cases, and 152,956 prescriptions were made. There is a deficit in the finances of the institution of $31,830. The hospital hopes to establish a tuberculosis bureau which will divide the upper section of the city into districts.

NORTH CAROLINA.

Asheville to Have an Ethical Pharmacy.—A movement, headed by several well-known physicians of Asheville, is being made to establish a drug store which will carry a complete stock of druggists' supplies and chemicals, and will make its specialty the filling of physicians' prescriptions, but will eschew, it is said, all "patent" or proprietary remedies.

Tri-State Society Meeting.—The tenth annual meeting of the Tri-State Medical Association of the Carolinas and Virginia will be held in Charlotte, February 18 and 19, under the presidency of Dr. Stuart McGuire, Richmond. Dr. J. Howell Way, Waynesville, is secretary. Headquarters will be at the Selwyn Hotel, and the topic for the general debate will be "The Treatment of Epilepsy."

Personal.—Dr. Paul H. Ringer, Asheville, who has been seriously ill at the Mission Hospital in that city, is now improving. ——Dr. J. Vance McGougan, Fayetteville, has been elected vice-president of the Scottish Fire Insurance Company of North Carolina.——Dr. Kenneth M. Ferguson, for four terms mayor of Southern Pines, has resigned and will move to Washington.—— Dr. Edward C. Register, Charlotte, has returned from Europe. ——Dr. Lawrence E. Holmes, superintendent of the Biltmore Hospital, is convalescent from an attack of pneumonia.

Prohibition Act.—The legislature has passed an act submitting the question of state prohibition of the manufacture and sale of intoxicants to a vote of the qualified voters of the state. The election is called for May 26, and if carried the law will become effective Jan. 1, 1909. The act permits the sale of alcoholic liquors only on prescriptions of regular practicing physicians, and permits also the sale of Jamaica ginger and other medicines containing alcohol.

NORTH DAKOTA.

Smallpox.—The most extensive and general outbreak of smallpox ever known in Wells County came to public notice in Fessenden, January 4, where five families were simultaneously placed under quarantine. The disease has existed among Russian residents for some time, but has apparently been concealed. The public schools of Fessenden have been closed.

Personal.—Dr. James P. Aylen, Sheldon, for many years coroner of Cass County, has been appointed chief surgeon of the Northern Pacific Railroad Hospital, Missoula, Mont., and has assumed his new duties. A banquet was given by the county society to Dr. Aylen, January 11, at which he was presented with a clock as a token of the esteem in which his contemporaries hold him.——Dr. Francis R. Smyth, Bismarck, has been elected president of the State Board of Medical Examiners, vice Dr. James P. Aylen, resigned.——Dr. Paul Sorkness, Fargo, has been reappointed physician, and Dr. Krekore H. Mallarian, Fargo, assistant physician, of Cass County.——Dr. William H. M. Philip, Hope, is reported to be seriously ill.——Dr. Robert D. Campbell, Grand Forks, left for Europe January 5.——Dr. George A. Stark, Mandan, has been appointed county physician for the eastern district, and Dr. Jacob Bursma, New Salem, for the western district, of Morton County.

OKLAHOMA.

Smallpox.—Smallpox has made its appearance among the students of the Oklahoma University, Norman. One student is ill with the disease and several are under quarantine.—— More than 50 cases of smallpox are reported at Owassa.

Seek Separation.—The State Board of Health and the county health officers have asked the state to separate the State Board of Health from the State Board of Medical Examiners, and also asked for the establishment of a bureau of vital statistics.

Personal.—Dr. William W. Rucks, Guthrie, has been appointed assistant superintendent of the Oklahoma State Hospital for the Insane.——Dr. Clinton M. Maupin has resigned as a trustee of Waurika County.——Dr. W. S. Owens has been appointed physician of Muskogee County.

Physicians Must Register.—The attorney-general has decided the question of the practice of medicine requirements of the Indian Territory side of the state. He holds that practicing physicians are not required to take out certificates of registration, for which a fee of $2.50 is payable, but are required to register, which does not require the payment of a fee.

PENNSYLVANIA.

Measles Prevalent.—On account of the prevalence of measles in Iron Bridge and Lobachsville, the public schools have been closed.

Personal.—Dr. Daniel Dechert, Schuylkill Haven, whose arm was amputated on account of blood poisoning, is recovering.—— Dr. E. P. Darlington, Norwood, has gone to Arizona.

Expenditures for Typhoid.—As the result of an investigation by the Pittsburg authorities, it was figured that the cost to Greater Pittsburg of typhoid fever for the year ended June, 1907, was $721,436.

To Fight Tuberculosis.—To fight tuberculosis in Schuylkill County, a committee of 25 prominent professional and business men was named by the Schuylkill Medical Society, January 27. Judge A. L. Shay, James B. Reilly, President G. E. Farquhar of the Schuylkill Lawyers' Association, and Dr. Arthur B. Fleming, Tamaqua, president of the medical society, head the committee.

Hospital Notes.—Contracts have been awarded for the Oliver Annex to the Southside Hospital, Pittsburg, which is to be put up this year. It is the gift of the Oliver estate and adjoins the present hospital buildings, and will cost about $200,000.——A donation of $10,000 has been received for the North Scranton Hospital.——Two lots, 20x150 feet each, have been donated as a site for the Berwick Hospital.

Relief Report.—The report of the Carnegie relief fund for 1907 shows that the distributions amounted to $216,764.05, divided as follows: Accident benefits, $17,545.15; death benefits, $130,449, and pension allowances, $68,769.90. Since the

relief fund was established, six years ago, there has been a total of 8,954 beneficiaries, as follows: Injured in accidents, 7,531; death benefits, 856, and pension allowances, 567, which has necessitated a distribution of $1,129,117.29.

Philadelphia.

Staff for the Oncologic Hospital.—The board of trustees of the American Oncologic Hospital, at its annual meeting January 23, elected the following medical staff for the hospital: Attending surgeons, Drs. Addinell Hewson, G. Betton Massey and Samuel McClary; attending physicians, Drs. William S. Newcomet and Charles A. E. Codman; consulting laryngologist, Dr. J. Solis Cohen; consulting neurologist, Dr. Charles K. Mills; consulting ophthalmologist, Dr. G. Oram Ring; consulting aurist, Dr. S. MacCuen Smith, and consulting odontologist, Dr. Dudley Guilford.

Health Report.—The total number of deaths reported for the week ended February 8 was 598, an increase of 56 over the previous week and an increase of 3 over the corresponding week of 1907. The principal causes of death were: Typhoid fever, 18; whooping cough, 5; diphtheria, 11; influenza, 16; consumption, 77; cancer, 23; apoplexy, 21; paralysis, 9; heart disease, 63; acute respiratory diseases, 90; gastritis, 5; enteritis, 16; cirrhosis of the liver, 7; acute nephritis, 10; Bright's disease, 41; premature birth, 17; congenital debility, 13; old age, 6; suicide, 2; accidents, 20, and marasmus, 6. There were 257 cases of contagious diseases reported, with 33 deaths, as compared with 281 cases and 31 deaths reported in the preceding week.

Personal.—Dr. Clara Marshall was elected a school director January 28.——Dr. Bernard J. Berens was re-elected president of the Athletic Club of Philadelphia, January 28.——Dr. George W. Spencer is ill in Jefferson Hospital.——Dr. E. Sherman Clouting has been appointed examiner of the insane at Blockley, vice Dr. Alfred Gordon, removed.——In compliance with the resolutions unanimously adopted at a meeting of the staff of the physicians of the Philadelphia Hospital, Director Neff is said to have requested the resignation of Dr. Julius L. Salinger.——Dr. Charles A. Oliver, who has been spending the winter in Southern California, Mexico and Cuba, returned to the city February 8.——Dr. Henry Winsor, surgeon in the University Hospital, Manila, sailed from New York for the Philippines, February 4.——Dr. C. H. H. Hall of Yokohama, Japan, is visiting in the city. Dr. Hall was formerly a surgeon in the United States Navy, but has been practicing medicine in Japan for the last 21 years.

VIRGINIA.

Tuberculosis Exhibit.—The Richmond board of health recently held a tuberculosis exhibit, which was attended by 11,517 people of Richmond and vicinity. More than fifty speakers discussed tuberculosis at the different meetings held during the week of the exhibit. The program included addresses and discussions on the following subjects: "Fundamental Facts in the Prevention and Cure;" "The City's Responsibility;" The Responsibility of the Doctor in the Crusade;" "Care of the Consumptive in the Home;" "Importance of Early Diagnosis;" "'Patent Medicines' in Tuberculosis;" "Tuberculosis in the Negro;" "The Commercial Aspect;" "What Tuberculosis Costs Richmond;" "Tuberculosis and Organized Labor," etc. These exhibits, held in connection with the work of the National Association for the Study and Prevention of Tuberculosis, have been of great benefit to the public, and the health authorities of Richmond should be congratulated.

McCormack in Virginia.—Dr. J. N. McCormack addressed the state legislature of Virginia January 20 in the hall of the Virginia House of Delegates. About 40 members of both branches of the legislature were present, as well as representative members of the medical profession of Richmond and prominent citizens. Speaker Byrd presided. Dr. McCormack was introduced by Hon. Eugene C. Massie of the Richmond delegation, in the unavoidable absence of Governor Swanson, who had warmly seconded the invitation extended to Dr. McCormack by the State Board of Health. Mr. Massie, in introducing the speaker, spoke of the previous visit of Dr. McCormack to Richmond, and stated that at that time he had been astonished at the facts which had been presented. He had seen for the first time some of the difficulties under which physicians labor and he felt sure that very few of the laity understood these matters, or the obstacles against which the physician works in his efforts to advance the welfare of the community. Dr. McCormack delivered a forceful address, which was listened to with great interest. After his address a meeting of the State Board of Health was called to formulate final recommendations for a bill to be presented to the general assembly, enlarging the powers of the board and giving it better financial support. Dr. McCormack was present and gave the members of the board the benefit of his experience. Many of his suggestions were incorporated in the bill, which has since been introduced in the legislature. THE JOURNAL correspondent writes as follows regarding the effect of Dr. McCormack's visit: "Altogether, it should be productive of much good in many ways. Before his first visit to Richmond, almost a year ago, we had not been altogether unaffected by the charges made in certain medical journals to the effect that the American Medical Association was exceeding its authority and making itself obnoxious by sending into the field a man to lecture to the doctors on their own affairs. Five minutes with Dr. McCormack at that time was sufficient to dispel this idea entirely, and with further light on the splendid work which he is doing and on his tactful, whole-souled way of doing it, the motives of those who sought to discredit this work are hard to understand. The broad good-will of Dr. McCormack, his deep-rooted love for his professional brethren everywhere, and his forceful way of presenting to the general public the claims of the medical profession, entitle him and the American Medical Association to the profound gratitude of every right-thinking physician."

GENERAL.

Missouri Valley Society Meeting.—The twentieth semi-annual meeting of the Medical Society of the Missouri Valley will be held in Lincoln, Neb., March 19 and 20, under the presidency of Dr. William F. Milroy, Omaha.

Bellevue Alumni Meeting.—The annual meeting and dinner of the Western Alumni Association of the University and Bellevue Hospital Medical College was held at the Grand Pacific Hotel, Chicago, February 3. Dr. John M. Ristine, Cedar Rapids, Iowa, was toastmaster. Dr. Willis O. Nance, Chicago, was elected president of the association; Dr. Hugh D. Wood, Angola, Ind., vice-president; and Dr. George W. Mahoney, Chicago, secretary.

Society Meetings.—The second annual meeting of the Chattahoochee Valley Medical and Surgical Association was held in Columbus, Ga., January 14, 15 and 16. The following officers were elected: President, Dr. James H. McDuffie, Columbus, Ga.; vice-presidents, Drs. Jesse G. Palmer, Opelika, Ala., and James A. Winn, Clayton, Ala.; secretary, Dr. William J. Love, Opelika, Ala.; treasurer, Dr. Andrew J. Coley, Alexander City, Ala., and councilors, Drs. Thomas E. Mitchell, Columbus, Ga., and John H. Drake, Auburn, Ala. The next meeting of the society will be held in Auburn, Ala., on the second Tuesday in July.

Civil Service Examinations.—The United States Civil Service Commission announces an examination on February 19 and 20 at various places throughout the United States for physicians at $150 per month, in the Panama Canal service. The commission announces an examination on March 4 for acting assistant surgeons of the Public Health and Marine-Hospital Service, for duty at St. John's River Quarantine, Mayport, Fla., at $125 per month, and vacancies requiring similar qualifications as they may occur. For the specific vacancy the applicant must be an expert in the diagnosis and treatment of yellow fever, and immunes are preferred. The age limit is 20 years or over on the date of examination. Applicants must be citizens of the United States, competent physicians and surgeons, and graduates of recognized medical colleges.

Entertainment for Medical Women at the June Session.—The Women Alumnæ Committee, the Women's Medical Society of the State of Illinois and the Medical Women's Club of Chicago each wishes to entertain the medical women visiting Chicago during the session of the American Medical Association next June. As the session of the American Medical Association is so short and the time so entirely filled, these three organizations have combined efforts and hereby extend to all the women physicians who will be in Chicago at that time, a most cordial invitation to a banquet and entertainment to be given on the evening of June 2, which is the evening that has been reserved for the special entertainment of the visiting alumni. At this banquet a special feature will be made of the reunions of the alumnæ of the different colleges. The College Club, Fine Arts Building, 203 Michigan Avenue, will be exclusively at the disposal of the medical women during the session of the American Medical Association, and will afford a place for them to meet, lunch and visit together. For further information inquiries may be addresed to those in charge of the arrangements. For the Women Alumnæ Committee, Katherine Brainerd Rich, M.D., chairman, 92 State Street, Chicago. For the Woman's Medical Society of the State of Illinois, Marion

K. Bowles, president, Joliet, Ill. For the Medical Women's Club of Chicago, Alice I. Conklin, M.D., president, 100 State Street, Chicago.

FOREIGN.

Spanish Antituberculosis Congress.—The first Spanish national congress to discuss ways and means to repress the spread of tuberculosis is to be held at Saragossa in October.

To Visit Chicago.—Dr. August Martin, professor of gynecology at the University of Greifswald, Germany, will visit this country next summer to attend the annual session of the American Medical Association.

Medical Study Trip.—A Paris organization has perfected arrangements to take a party of physicians through Italy in April and May for a medical study trip. Naples will be the most southern point visited.

Memorial Service for Lassar.—A memorial service for the late Prof. O. Lassar was held, January 20, in the amphitheater of his clinic under the auspices of the Dermatological Society. Rosenthal and Mayer delivered the main addresses.

The Final End of the Cancroin Suit.—THE JOURNAL duly chronicled the suit brought by Professor Adamkiewicz, formerly professor at Warsaw, against the firm of E. Merck of Darmstadt, claiming damages for non-fulfillment of contract in regard to pushing the sale of his "cancroin" for the cure of cancer. He lost his suit, and the final court of appeals has confirmed the judgment of the lower court, based on expert testimony as to the worthlessness of the alleged remedy.

Fine for Exaggerated Claims for "Augenwol."—The local court at Chemnitz, Germany, has fined the business manager of the firm manufacturing "Augenwol" for the exaggerated claims made for this article, which is being extensively advertised in Germany. The medicolegal experts testified that it was entirely worthless and the price far in excess of the actual cost of the ingredients. "Augenwol" was stated to be merely a mixture of salt, boric acid, glycerin and alcohol, tinted and perfumed. A fine of $36.50 was imposed (150 marks).

Honors to Dr. Roberto Wernicke of Buenos Aires.—A recent issue of the *Semana Medica* of Buenos Aires is nearly all devoted to the ceremonies attending the presentation of the diploma of honorary professor conferred by the authorities on Wernicke in token of appreciation of his services to the city, the nation and the profession. His friends and students also presented him with a piece of statuary. He has been professor of general pathology for a number of years, and has always taken a prominent part in all measures for the welfare of the public and of the profession.

New Journal on the Heart, Vessels and Blood.—Professor Vaquez of Paris, with Laubry and Aubertin, has founded the *Archives des Maladies du Cœur, des Vaisseaux et du Sang*, to be published monthly by J. B. Baillière et fils, rue Hautefeuille 19, Paris, France, for 17 francs, about $3.40, a year. The first issue has been received and contains a study of the pharmacodynamic and therapeutic action of the nitrites, a study of the histologic action of the Roentgen rays in lymphoid leukemia, and an article entitled, "Les poisons alimentaires et athérome," by Professor Loeper. There is a department for abstracts of works on this specialty and a list of prizes offered by various scientific societies for works bearing on some phase of the subject.

Official Medicolegal Service at Rio de Janeiro.—Prof. A. Peixoto, one of the editors of the *Brazil Medico*, has been placed in charge of the newly inaugurated medicolegal department of the police service. The city is divided into six zones, and a physician has been appointed for this service in each zone. There is besides this a morgue where autopsy of all deaths from violence is imperative, a central detention hospital for the insane and an establishment in the rua Mem de Sa, where the main offices, library, museum, rooms for gynecologic examinations and well-equipped chemical and microscopic laboratories are installed. The library already contains 500 authorities on medicolegal questions. The department for chemistry and microscopy is in charge of Dr. A. de Andrade.

Typhoid Fever in Scotland.—A serious outbreak of typhoid occurred in the west end of Glasgow during the latter part of December and in January. Investigation showed that all the patients were receiving milk from the same dairy. Further investigation brought out the fact that the milk was procured from a farm in the neighborhood of Glasgow and that a young woman, a member of the family, was ill with typhoid. At first it had been supposed that the illness was influenza, and later pneumonia was suspected, but careful examination showed that the disease was typhoid; the blood gave the Widal reaction. The farmhouse was thoroughly disinfected and the sale of milk therefrom stopped, but unfortunately, not before 69 cases of typhoid and several deaths had occurred in Glasgow.

Jubilee of the Norwegian Military-Medical Society.—The twenty-fifth anniversary of the founding of this society was celebrated at Christiania, Dec. 21, 1907, and two fine commemorative works were published. One contains the history of the association since its foundation and the work it has accomplished, and the other biographical sketches and portraits of the Norwegian medical officers in the military service 1882-1907. After a festival meeting and announcement of gifts toward the accumulation of a jubilee endowment fund, the members adjourned to attend the jubilee banquet. The income from the endowment is to serve as prizes for important works published during the year and for loans or gifts to students making a specialty of military medicine or to members in need. The *Tidsskrift f. d. norske Lægefor.*, January 15, reports the proceedings in detail.

Robert Koch to Visit America.—A cable dispatch says that Koch is contemplating a trip to this country as part of a year's rest. He expects to start for New York early in April and visit Niagara, the Yellowstone, and other points of interest, striving to free his mind from all thought of science and medicine during a year of travel and mental rest. He is said to be looking somewhat worn from his strenuous year and a half in the heart of Africa, devoted to the study of sleeping sickness. He was 65 years old December 11, and first won fame by his publications on the bacteriology of anthrax, 1876. He received one of the Nobel prizes in 1905, and the German government has conferred honors and gifts on him so that the discoverer of the tubercle bacillus and the comma bacillus is now a rich man. His wife accompanied him on his scientific missions to Africa, and will be with him in this country. He has refused all invitations to lecture, wishing to remain a spectator during this year of rest, which may include a trip around the world.

Foundation of International Health Office.—The International Conference which met at Rome Dec. 9, 1907, decided to found an international health bureau. Only thirteen of the twenty-one states that participated in the Paris conference in 1903 took part in this last conference, Germany, Austria, Greece, Holland, Hungary, Luxemburg, Montenegro and Portugal not being represented. All the other European states were represented besides the United States and Egypt. The international health office was organized in accordance with the recommendations of the ways and means committee. The headquarters are to be at Paris, and the contracting states will contribute their share of the $30,000 required for its maintenance. The director of the health office is not to be allowed to fill any other salaried position. The *Semaine Méd.*, January 8, adds to its account of the conference the information that the diplomatic convention signed by the delegates to the recent convention is to remain in force for seven years, and then for an additional seven years for each state that has not given official notice in the meantime of its intention of withdrawing from participation in the International Health Office.

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, Feb. 1, 1908.

Poisoning by Cocain.

A woman in London died in a drug store on January 18, while under the influence of cocain which had been administered for extraction of teeth. The person who gave the drug was neither a registered dentist nor a druggist, with British qualification, but a Russian who had opened a drug store in that quarter of London in which aliens are most numerous. In cross-examination it came out that Zeifert, the keeper of the drug store, had administered cocain when extracting teeth many times. A verdict of manslaughter was returned against him.

Plague in West Africa.

Prof. W. J. Simpson of King's College, London, has been despatched by the British government to the West Africa Gold Coast to assist in combating the outbreak of plague which is raging in Accra. There is no reason to believe that the outbreak is unusually serious, but as it has occurred in a fresh place it is thought desirable that it should be dealt with at once. Plague broke out some time ago in South Africa and Professor Simpson was sent, and by prompt measures completely checked the outbreak. He is taking with him to the Gold Coast a considerable quantity of Haffkine's plague serum.

Fog and Diseases of the Respiratory Organs.

The prevalence of fog in London this winter has been responsible for the large number of affections of the air passages which have been evident. Pneumonia of the variety which really amounts to a combination of pneumonia and bronchitis, has been frequent and deadly in London recently. Another form of inflammation to which the name of "influenzal pneumonia" has been given, has been distinguished by its ravages during the past few months.

Cancer Discovery.

Dr. Ford Robertson, pathologist to the Scottish asylums, has reported the discovery of certain peculiar rod-shaped bodies in cancer which hitherto seem to have escaped notice. These small bodies are said to be not of the nature of microbes, and further investigation in regard to their significance will be awaited with interest.

Proprietary Medicines.

The official report of the committee on the quackery prevention bill, New Zealand, has been published. It is a good-sized volume, of which nineteen pages are occupied by extracts from the *British Medical Journal* and other publications giving analyses of various proprietary medicines. The two medical men whose evidence is published, Dr. Mason and Dr. Cahill, each defined proprietary medicines. Dr. Cahill spoke of: 1, The worthless class, mentioning anti-fat cases; 2, drugs which, though useful for a particular purpose, are fraudulently advertised as beneficial in a variety of cases; 3, those that are absolutely harmful. One of Dr. Mason's points was that disclosing the formula would not give away a man's business. Many firms state their compounds on the label. Dr. Ham, commissioner of health of Queensland, is even more outspoken as to the bulk of proprietary medicines. He says that Australia, like America, is the home of quackery. A large army of importers, so-called "professors," "herrs," "nurses," "herbalists" and "specialists," with little if any professional training in medicine are allowed to fatten on a credulous community. Some of the proprietary medicines sold contain more than 5 per cent. of proof spirit. "Soothing syrups," "headache powders" and "cough mixtures" containing deadly drugs are sold in Australia by many storekeepers.

Tuberculosis in Milk.

Dr. Robertson, health officer for Birmingham, in conjunction with Mr. J. Malcolm, veterinary superintendent to the local authority, in an important report on tuberculosis and milk supply, emphasize the ineffectiveness of existing precautions. An investigation of 175 samples of milk taken from churns at railway stations and other places outside Birmingham showed that 14 per cent. were tuberculous. In five samples taken from the mixed dairy milk, over which special powers of supervision are exercised, no evidence of tuberculosis was found. In two large herds supplying milk to Birmingham 22 per cent. of the cows were found to be affected with tuberculosis.

Sanatoriums for Consumption and Certain Other Aspects for the Tuberculosis Problem.

Dr. Bulstrode, one of the medical inspectors to the British local government board, has issued recently a report of great moment. It deals with sanatoria and other aspects of the tuberculosis question. Dr. Bulstrode, after pointing out that consumption has been steadily decreasing in England for the past thirty years, says that the magnitude of the evil has been overrated and that as a matter of fact, it is a disease declining at a fairly fast rate. He also draws attention to the greater liability to contract tuberculosis by means of tuberculous meat and milk than by direct infection. Milk is especially to be dreaded in this respect. Dr. Bulstrode concludes that usefulness of sanatoria has been overestimated. They are valuable for treating patients in the early stages, or, rather, for educating such persons in the kind of life they should lead, but otherwise are of little utility.

The Lancet Libel Case.

The libel suit brought against the *Lancet* and which has been previously referred to in this department,[1] has been tried. A verdict was given against the *Lancet* with damages for $5,000. The action arose from certain comments made in the *Lancet*, March 9, 1907, on an inquest held by Dr. Waldo, the city of London coroner, on the body of a man who died from consumption. During the evidence at the inquest it was elicited that the deceased (a poor workingman) had been using "Dr." Tucker's "Asthma Specific." The coroner made some remarks on the remedy, which were borne out by the *Lancet* in an editorial. The defendants pleaded that their remarks were fair comment, but the jury, influenced by the judge, who directed them that it was a slanderous attack on the plaintiff's private character, gave a verdict as stated above. Augustus Quackenbush Tucker is the British agent for his brother, "Dr." Tucker of Ohio. The nostrum seems to have taken with the British public, as last year over $100,000 was made from its sale. In giving evidence, Tucker disclaimed all responsibility for the literature that accompanied the article and said that he did not know of what the "specific" was composed; he also said that he was not aware that he was infringing the pharmacy act by the sale of the cocain-containing fluid. The *Lancet* has been granted a stay of execution with a view to appeal.

1. London Letter, THE JOURNAL A. M. A., Jan. 11, 1908, p. 133.

Sanatoria for Consumptives.

The British local government board recently issued a report on "Sanatoria for Consumption and Certain Other Aspects of the Tuberculosis Question." Dr. Timbrell Bulstrode is responsible for the report, which he began in 1902. In the course of his inquiries he has visited and inspected every public sanatorium in England and Wales. It is shown that mortality from consumption has greatly decreased in England. The most interesting part of the report, however, is that which states the manner in which consumption is communicated. Dr. Bulstrode thinks it probable that the disease is more frequently conveyed by tuberculous milk and meat, by way of the alimentary canal, whence in those predisposed to the disease, it finds a path to the respiratory organs, bones and tissues. He is also of the opinion that the communicability of tuberculosis has been overestimated and that the value of treatment by means of sanatoria has been exaggerated. Dr. Bulstrode lays stress on the need of early treatment in cases of consumption.

Unconsidered Factors Affecting the Birth Rate.

At the Royal Statistical Society, Dr. Reginald Dudfield, health officer for Paddington, read an important paper on this subject. His aim was to estimate potential fertilities as affected by the alteration in the age, constitution of the married population of the country, and the amount of the decrease in the number of legitimate births resulting from "moral restraint." Fecundity is measured by the number of confinements; fertility by the absolute number of children. The upper limit of the fecundity of women he raised from 45—the figure usually adopted—to 54 years. The proportion of fecund women to the population has undergone but slight change during the last half century. But the growth of legitimate births has not kept up with the growth of the population to the extent of 28 per cent. There had also been a lagging behind the increase in the number of fecund women to the extent of 37 per cent. Dr. Dudfield estimated that the numerical loss of births owing to "moral restraint" in England and Wales amounted to 209,295 per annum.

Sleeping Sickness in Rhodesia.

A report just received in Liverpool from the expedition of the Liverpool School of Tropical Medicine dispatched to Rhodesia for the purpose of checking the spread of sleeping sickness in Central Africa, of studying the disease, and of investigating the distribution of biting flies, says that the fly, *Glossina palpalis*, is found along both banks of the Luapula and scattered over the whole district. It is thought advisable to appoint special traveling medical officers whose duty will be to travel constantly through the threatened districts looking for cases. The villages along the river might with advantage be moved inland in many cases; no hardships would thus be entailed on the natives, as they are not dependent on the river for food, and the huts are easily built. In case the villages are not moved the river front could be cleared for a considerable distance—at least 500 yards on either side of the huts. If vigorous measures are adopted the expedition sees no reason why the district should not be preserved free from infection for an indefinite period.

A Small, Tough Slum Race.

In an address on infant mortality delivered before the Sociological Society, Dr. Robert Hutchison said that one of the remedies suggested was the regulation of marriages. He thought the medical profession would hesitate before they interfered in the question of marriage. Physicians do not know what types it would be best to produce. It did not follow that people big in limb and full of brawn and beef would be well fitted to survive the conditions of life in the slums. He believes that the race, left to itself, is evolving a small, hardy kind of slum dweller who can withstand the unfavorable conditions of slum life better than the big country-bred folk.

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Lobar Pneumonia.

Although this is generally a self-limited disease, and there is no specific treatment that can kill the pneumococci or curtail the systemic infection or hurry the resolution of the part of the lung involved, still it should be emphatically stated that the intensity of the symptoms can be modified, rarely the disease apparently aborted, and that many times life is saved by proper management. The word management is used to include nursing, diet, hygienic surroundings, physical therapeutic measures, and medication. It is just as absurd to declare that the pneumonia patient needs no medication and that nothing can be done for him medicinally as to throw down the reins of a runaway horse because he can not be stopped immediately.

While it has been lately disputed, statistics and observations seem to bear out the assertion that pneumonia has been more frequent and more fatal in the last two decades than before that time. As no acute disease puts more labor on the heart than does pneumonia, it is the heart that so frequently fails us, at first or at last, and sometimes all the time, in this disease. It would probably be untrue to assert that pneumonia is more virulent than it was or that the pneumococci are harder to combat, but, as the hearts of this age are weakened by continuous and unending nervous strain and excitation, and by the frequent taking of coal tar preparations, this disease is more frequently fatal, as the hearts are unable to stand the strain. Also, while not more men smoke than twenty years ago, it is a frequent observation that more men who do smoke, do so excessively, and oversmoking leaves a heart unfit for the hard battle.

PROPHYLAXIS.

The same precautions that are used and advocated to prevent the tubercle bacillus from living and thriving should be applied to the pneumococcus. This germ inhabits the damp, ill-ventilated, dark and crowded tenements, and pneumonia has been shown by careful investigation in cities to occur in direct ratio to the crowding of the population; in other words, the more crowded the tenement or the more thickly populated the street, the greater the number of deaths from pneumonia. Pneumonia is a communicable disease, perhaps as communicable as tuberculosis, and certainly many more times communicable than cerebrospinal meningitis, and should be declared by boards of health "a reportable disease." Rooms and tenements in which pneumonia has occurred should be fumigated as carefully as is now done where there has been tuberculosis.

The pneumococcus has many times been found in the mucus of the mouth and throat, but doubtless can not cause pneumonia until by some means it reaches the lungs. It seems to find its opportunity to cause infection when a patient is debilitated, especially by a catarrhal inflammation of the upper air passages, or a bronchitis. Influenza often gives it its opportunity. While pneumonia often attacks a strong, healthy man or woman, anything that tends to prevent recurring colds, tonsillitis, laryngitis or bronchitis tends to prevent pneumonia. In other words, the nose and throat should be made healthy.

Fresh, clean air in the sleeping room is as much a preventive of pneumonia as a preventive of tuberculosis.

CAN THIS DISEASE BE ABORTED?

Except in instances in which the sputum has been found to contain pneumococci, and, under measures instituted the congested lung has cleared up in a day or two, we are not justified in asserting that an attack of pneumonia has been aborted. On the other hand, with assistance and without assistance, we all see instances of congestion of one lobe of a lung occur, stop, and become normal in two or three days. Unfortunately, at this period of an apparent pneumonia there may be no sputum, and if there is, it is not examined for pneumococci, and it may not have been a pneumonia at all, but certainly it was a congestion of one lobe of a lung. Consequently an attempt to abort an apparent first stage of pneumonia should be made.

If the patient is strong, sturdy, and especially if he is plethoric, venesection will often give good results, and is positively indicated if there is marked dyspnea, if the heart is laboring, the head full, and the face congested, even if there is no actual cyanosis. Life has been saved by venesection done under the above conditions.

If the symptoms are not dire enough to demand venesection and for other reasons it is deemed inadvisable, which is generally the case, a full dose of an antipyretic drug, such as antipyrin, sufficient to cause profuse sweating, is good treatment, as:

℞.	gm.		
Antipyrini	1|	or	gr. xv

Fac chartulam 1.

Sig.: To be taken at once, with plenty of water.

Or, as this drug has a disagreeable taste:

℞.	gm.		
Antipyrini	1|	or	gr. xv

Fac capsulas 2.

Sig.: Take both capsules at once, with plenty of water.

Unless there is sufficient pain to require an immediate dose of morphin, calomel could be combined with the above powder, as:

℞.	gm.		
Hydrargyri chloridi mitis	|20	or	gr. iii
Antipyrini	1|		gr. xv

Fac chartulam 1.

Sig.: Take at once with a cup of milk.

Or, if it is to be given alone:

℞.	gm.		
Hydrargyri chloridi mitis	|20	or	gr. iii
Sodii bicarbonatis	1|		gr. xv

Fac chartulam 1.

Sig.: To be taken at once, with water or milk.

Or, 0.10 grams (2 grains) of calomel may be given with an aloin, belladonna and strychnia tablet.

If the pain is severe, morphin should not be delayed, but given, if necessary hypodermatically, in a dose sufficient to stop the pain, either ⅛ or 1/6 of a grain. It is better to repeat the dose of morphin when needed rather than give as large a dose as ¼ of a grain, which will, perhaps, produce more profound sleep than is desired. If morphin is given for the first acute pain, a saline purgative should be given on the following day. Over the part of the lung involved dry cupping some times seems to stop the pain and relieve the internal congestion. It also seems to require less morphin for the primary pain if hot fomentations (and none better than the flaxseed poultice) are used over the region of the lung involved. *Post hoc* or *propter hoc*, from the above treatment an apparent beginning pneumonia sometimes stops.

The older treatment with aconite and veratrum viride is undoubtedly often of value. They have come somewhat into disuse on account of the weak heart which so often is present

during pneumonia, and the physician has disliked to think that he may have first weakened that heart with the cardiac depressants. If aconite is used, it should be given as follows:

℞. c.c.
Tincturæ aconiti ..... 15| or fℨss

Sig.: One drop, every half hour, until the pulse becomes soft and slow.

Veratrum viride was once believed to be almost a specific in pneumonia, but is not now much used except by a few believers.

℞. c.c.
Tincturæ veratri ..... 25| or fℨi

Sig.: Five drops, every half hour, until the pulse becomes slow and soft.

Neither aconite nor veratrum viride should be used after the first twenty-four hours. Whatever good action they may have would be before the first twenty-four hours had passed.

(*This subject is to be continued.*)

Hematuria.

Some of the causes of this condition are:

Trauma.
Hemophilia.
Gravel and renal calculus.
Floating kidney.
Scurvy.
Severe malarial infection.
Purpura hemorrhagica.
Henoch's disease.
Acute infectious fevers (rarely).
  Measles.
  Diphtheria.
  Scarlet fever.
  Typhoid fever.
  Cerebrospinal meningitis.
  La grippe, influenza.
Acute nephritis.
Tuberculosis of the kidney.
Sarcoma of the kidney.
Cancer of the kidney.
Cystic degeneration of the kidney.
Poisoning by various drugs.
Rarely by non-poisonous doses of:
  Coal-tar drugs.
  Genitourinary stimulants and antiseptics.
  Salicylic acid.
  Quinin.
  Potassium chlorate.
  Thyroid.
Gas poisoning.

The cause of the bleeding from the kidney having been diagnosed, the treatment in most instances becomes that of the disease that causes it. When there is simple inexcusable hemorrhage, the following rules may be laid down: The most important thing is absolute rest in bed, with a milk diet, and not much liquid taken aside from this, so that the blood pressure may be kept low. Anything that would much increase the blood pressure would seem to be contraindicated. When there is a hemorrhage into an internal organ and the bleeding point can not be reached, it seems absurd to raise the blood pressure by either suprarenal preparations, ergot, digitalis, strychnin, atropin, or any other vasoconstrictor. Of course, it is well known that most internal hemorrhages cease after such medication, but they cease because there is clotting in the bleeding vessels, not because of the action of the drug. Administration of nitroglycerin to reduce the internal pressure by dilating the peripheral blood vessels is much more valuable.

If there is any nervous excitation or pain, as from calculus, morphin should be given, as it will reduce the tension and thus reduce the blood pressure.

In scurvy the specific treatment with oranges and lemons and proper food soon stops the bleeding.

In hemophilia various drugs may be tried. Suprarenal extract may do good, and thyroid extract has often been of advantage, although in other instances it tends to increase the hemorrhage. The exact element in the blood that is wrong or the exact internal secretion that is at fault in hemophilia has not been discovered and may not be constant, hence the varied results from the administration of the various organic extracts. Gelatin has been fed with advantage in such instances, and calcium chlorid has often been of benefit. Calcium chlorid may be given as follows:

℞. gm. or c.c.
Calcii chloridi ..... 5| or 3iss
Syrupi calcii lactophosphatis.....100| fℨiv

M. et Sig.: A teaspoonful, with plenty of water, every three hours.

Tannic acid, or better, gallic acid, as the tannic acid is probably absorbed as sodium gallate, has seemed to be of benefit in bleeding from the kidneys. Whether this action is a *post hoc* or a *propter hoc* it is difficult to determine.

Dry cupping over the kidneys, or over the kidney supposed to be at fault, has seemed to be beneficial.

Of course, if the bleeding is due to a calculus or to disease of the kidney, the hemorrhage will recur until the cause is removed.

In the acute infections the bleeding is rarely serious, although it renders the outcome of the disease more doubtful.

For the treatment of malarial hemoglobinuria see THE JOURNAL, Aug. 17, 1907, page 615.

Pharmacology

Deodorizing Powders.

BOSTON, Jan. 18, 1908.

To the Editor:—1. Has any analysis been made by your chemists of the deodorant powder "Amoline"? The powder is sold chiefly for women to use during menstruation and seems to give satisfaction. 2. I have been interested in your endeavors to eliminate the use of such nostrums and, therefore, I have been attempting to make some powder which would have the following characteristics: 1, It must be white; 2, it must be odorless, or at least have a faint but pleasant odor; 3, it must be non-irritant; 4, it must be a really efficient deodorant. Can you give me any suggestions in regard to the composition of such a powder? EDWARD R. WILLIAMS

ANSWER.—1. Amoline is being examined in our laboratories and a report will be published next week. 2. Deodorants, as distinguished from antiseptics, are substances which destroy foul odors by uniting with the foul-smelling substances or by concealing the odor by a more pungent and pleasant one. For the first purpose, substances which fix such odorous gases as ammonia or sulphuretted hydrogen may be used. Salts of zinc serve a good purpose in this way; they also act as antiseptics by coagulating albuminous matter and preventing the action of the putrefactive bacteria on it. For most cases in which foul odors are to be dealt with, a mild antiseptic, one that will check the putrefactive decomposition from which the foul odor arises, should be used. For this there is nothing more effective than powdered boric acid. It is best in these cases, however, to suit the method to the individual patient, and hence it would be preferable to write a special prescription rather than to recommend a ready-made powder in any cases. The pulvis antisepticus of the National Formulary (Physician's Manual, page 126), may be taken as a type and its ingredients varied to suit the needs of the patient or the special use to which it is to be put. The solid constituents of the liquor zinci et alumini compositus N. F. (Physician's Manual, page 88) might also be used; or the pulvis talci salicylicus N. F. (Physician's Manual, page 129).

Another Fraternal Paper Omits Nostrum Advertisements.

The *Modern Woodman* announces that, commencing with its January issue, all medical advertising will be excluded. It says:

"We are taking this stand, not because we believe all medical advertisers are 'fakes,' but because we find it impossible to sift 'the wheat from the chaff.'"

Although this means the loss each month of a considerable volume of advertising, the *Modern Woodman* declares, it is determined to have its columns absolutely free from any kind of advertising that in any way conflicts with the following guarantee of the advertising manager:

"To each member of the Modern Woodmen of America I positively guarantee, while I am advertising manager of this paper, that no advertisements will be allowed in our columns unless I believe that any reader can safely do business with the advertiser. . . ."

The frank statement that it is impossible to discern between safe and dangerous medical advertisements is a confes-

sion that might well be made by many a paper if it had sufficient courage.

The interesting point about this action of the *Modern Woodman* is that the advertising manager feels that the step is necessitated by his endeavor to assure to the readers a square deal from every advertiser. He realizes that it is unsafe to count on any such thing from the average "patent medicine" or medical "specialist."

In contrast to the above action is the conduct of another fraternal paper, known as the *Royal Neighbor*, which is brought to our attention by a recent letter. As our correspondent states, the majority of the members of this order are women, and medical advertisers seem to think them easy marks, if we may judge by some very fraudulent advertisements found in this paper. We would suggest to the members of the order represented by the *Royal Neighbor* that they call the attention of the proper authorities to the unneighborliness of this partnership with fraud carried on by their journal.

WHAT IS HYDROCINE?

An Analysis of the "Hyper-Oxidized Hydro-Carbon."

Hydrocine, widely advertised as a consumption cure and belonging to the class that Samuel Hopkins Adams would designate the "fundamental fakes," has been analyzed by our chemists and found to consist chiefly of cane sugar. This preparation was referred to in THE JOURNAL, Aug. 17, 1907, and its evidently fraudulent nature commented on.

In common with other members of its class, it is advertised as being an essentially non-secret preparation and, to bear out that claim, an involved and meaningless "formula" is appended. Its promoters state that Hydrocine is "a vegetable hyper-oxidized hydro-carbon"—whatever that may mean. Its "formulas" are equally enlightening. We use the plural advisedly, as Hydrocine exhibits that fine fickleness and mutability of composition that characterizes nostrums of its kind. Its early "formula" was as follows:

Hyper-oxidized hydro-carbon (vegetable)	28 gr.
Pure rock sugar	8 gr.
Powdered pancreatin	1/20 gr.

The oxids are liberated in the stomach and thrown into the circulation.

For some unknown reason, however, this "formula" was changed before the edition of the pamphlet, setting forth the wonders of the combination, was exhausted. "Formula" No. 2, as printed on a "sticker" placed over "Formula" No. 1, states that Hydrocine consists of:

Oxidized carbo-hydrates and essential oils	18½ gr.
Mineral constituents	1½ gr.
Pure rock sugar	9 gr.
Powdered pancreatin	1/20 gr.

Accompanying this later pamphlet—or more correctly, the earlier pamphlet with a later "formula"—is a circular giving the following enlightening information regarding the composition of Hydrocine:

INGREDIENTS.

> "Oil of cinnamon, coniin, peppermint, spruce, myrtle, chekan, marrubium, myrrh, turpentine and thymol, with all toxic properties positively eliminated. The residue is highly oxidized, mixed with oxidized sugar, pancreatin and pressed into a 30 grain tablet. The oxygen is liberated in a nascent form, and taken up by the circulation, and thus enables patients to become saturated with the same in 30 minute doses."

This same circular also gives what purports to be a report of an analysis of Hydrocine Tablets, which, however, reads more as if it were a testimonial prepared at the request of the manufacturer, in spite of the fact that it is written by a presumably reputable chemist. Thus, while the report states that the tablets contain a certain amount of "aldehydes, ketones and oxidized products from the bodies used," the chemist virtually acknowledges that these bodies were not actually determined by him. In fact, from the language of the report one is led to believe that he accepted the manufacturer's statement in regard to their presence. Of course, we do not know the composition of the hydrocine which the manufacturer submitted to this chemist for report, or the composition which hydrocine will have in the future. The report of the analysis made for the American Medical Association by its chemists indicates the composition of Hydrocine such as is sent to physicians, and is, therefore, of interest. It is as follows:

> We have made a careful examination of the original package of Hydrocine and find that the average weight of the tablets is 29.5 grains. Of this, 95 per cent., or 28 grains, of the total of 29.5 grains, is cane sugar. Each tablet contains an average of 0.3 of a grain of a substance, insoluble in alcohol, containing nitrogenous matter. The indications are that this substance may be very impure pancreatin, that is, that this 0.3 of a grain may contain the 1/20 grain of pancreatin claimed to be present by the manufacturers. It also contains very small quantities of aromatic oils, and it is probably due to the fact that these oils, like turpentine, react with oxygen that it is claimed that the vegetable matter is "hyper-oxidized." The formula, however, mentions "hyper-oxidized hydro-carbon." Perhaps the manufacturers have reference to the rock sugar and mean carbohydrate, for there is probably no oxidation of the sugar, though it is probable that the aromatic oils present may be partially oxidized and changed in other ways after a time, but the "hyper-oxidized hydro-carbon (vegetable) 28 grains" of the formula is an absurdity, particularly as the analysis shows that the tablet contains 28 grains of sugar. We do not believe that it is possible for such a substance as turpentine, for instance, when in contact with sucrose (cane sugar) to act as an oxidizing agent.

Apparently, therefore, the essential constituent of Hydrocine, as it is now offered to physicians, is cane sugar, and evidently this was the substance which was referred to as the "hyper-oxidized hydro-carbon." As indicated by our chemist's report, the very learned (?) statements regarding the "hyper-oxidized hydro-carbons" or "oxidized carbo-hydrates" may be reduced to a simpler statement: "Each 29.5 grain Hydrocine tablet contains 28 grains of cane sugar and small quantities of volatile oils and a trace of pancreatin."

SUMMARY.

To sum up, we have: A preparation, shown by analysis to be 95 per cent. cane sugar, put on the market to be retailed at a cost of $8 a pound (avoirdupois). The claim is made that by giving this preparation in 30-grain doses to the extent of one and a quarter ounces daily, tuberculosis can be "permanently cured" in "from six to sixteen weeks." To impress the unthinking, the main constituent in the formula is given a quasi-scientific name, meaningless in import. The exploiter of this "remedy" claims to have given up a practice yielding $10,000 annually "to spread the truth regarding this preparation"—and incidentally, we suspect, to reap the benefits that must acrue from selling sugar at over $5 a pound, wholesale.

Our chemist having translated for us into simpler language the statements as to the composition of the article, we, as physicians, should not find it difficult to interpret correctly the evidence on which the claims are based.

One Newspaper Editor's Opinion of Kargon.

Anaheim, Orange County, Cal., does not occupy a very large place on the map, but it is to be congratulated on having a newspaper, the Orange County *Plain Dealer*, that is independent of "patent medicine" fakers. It contains no "patent medicine" advertisements, and, therefore, can speak its mind. Some one has favored us with a copy of the January 25 issue in which the editor first quotes one of the very "taking" reading notices that tells of the wonderful preparation that will cure all diseases, that is non-secret, that is not a "patent medicine" and in which "Compound Kargon"[1] is the "milk in the cocoanut." After quoting this advertisement, the editor makes these comments:

We saw the above innocent looking little item floating through our exchanges and said to ourself here, we may help

1. THE JOURNAL A. M. A., March 16, 1907, p. 967.

some poor devil far removed from a physician, by publishing this, but before we publish we will try the stuff, for we, too, at that time had a back on hand that was raising the devil with us. All our life, mind you, we have been telling people never consult a blacksmith when they were sick, but go to a physician, and go at once. But this was a "home remedy," don't you know, such as mother used to make out of catnip, boneset, lobelia, mullen, sassafras, carrots and burdock for all the ills of human kind. Well, to make a long story short, instead of sending for Dr. Johnston, our family physician, we sent the recipe to a drug store and had it filled and commended it to our innards in regulation doses. Do us any good? We had better taken a pound of ten penny nails. Good? Hell! A little later we saw Dr. Johnston and told him what an ass we had made of ourself. He read over the article above and—grinned. "Do you know what Kargon is?" said he. We 'fessed at once that we didn't. "Well," he continued, "nobody else does save the manufacturers who make it, and it catches lots of dupes, and the poor druggist who puts up the prescription has to pay them a good round price for it. It is a neat way to catch suckers, don't you know, who are innocent of guile."

The language used by our Pacific Coast editor is not altogether elegant, but there is no mistaking his meaning. Elsewhere in the same issue he comments on the opposition to the national Food and Drugs Act as follows:

The fruit growers of the state are now in active hostility against the provision of the national Pure Food law that provides against the sulphuring of fruit in the drying process. The whisky men are fighting it tooth and nail because of the provision in the law that requires it to be made pure and free from coloring matter or adulteration of any kind. The packers of breakfast foods, and the manufacturers of 'patent medicine' nostrums are also on the warpath. It is hard to get a pure food law, when an attempt is made to enforce it, that will please anybody. The sausage maker wants to mix bran and corn meal with his sausage. Why? Corn meal and bran are cheaper than meat. That's the reason. Corn meal and bran at 15 or 20 cents per pound pay the beef barons a handsomer profit. See? A pure food law is an instrument of the Devil in the eyes of Greed. See?

Would there were more newspapers of the character of the Orange County *Plain Dealer*.

The Prescribing of Proprietaries by Physicians Decreasing.

In various parts of the country investigations have been made, through the cooperation of pharmacists, as to whether or not the prescribing of proprietaries by physicians is increasing, decreasing or remaining stationary. The evidence thus far shows that there is a marked decrease. The last issue of the *Weekly Roster* of the Philadelphia County Medical Society announces that the collective investigations by the Ethical Preparations Committee of the Philadelphia Association of Retail Druggists show that the "returns already received, we are delighted to say, show a decrease varying from 10 to 60 per cent." Similar reports have been received from other localities.

Book Notices

THE DIAGNOSIS AND TREATMENT OF DISEASES OF WOMEN. By Harry Sturgeon Crossen, M.D., Clinical Professor of Gynecology, Washington University; Gynecologist to Washington University Hospital and Chief of the Gynecological Clinic, etc. With Seven Hundred Illustrations. Cloth. Pp. 800. Price, $6.00. C. V. Mosby Medical Book and Pub. Co., St. Louis, 1907.

In the preface the author specifically states that his attention is exclusively devoted to diagnosis and treatment of diseases of women, so that only such space is given to etiology, pathology and major operative technic, as is necessary to bring the work to its highest usefulness as a practical guide in the lines indicated. Hence the customary chapter on anatomy is absent, such anatomic points as are given being found in the chapter devoted to a consideration of the various pathologic conditions. The methods of gynecologic examination and diagnosis are painstakingly outlined, with numerous illustrations, and an original topical division of the abdomen for diagnostic aid is presented, the umbilicus being the fixed point in abdominal mensuration. The author emphasizes the importance of analysis of the blood, urine, sputum, etc. Methods of analysis, however, are not given, nor is any form of laboratory or microscopic diagnosis considered, except in the paragraphs on gonorrhea.

The differential diagnosis of abdominal and pelvic conditions is undertaken with marked detail and abundant illustration. Indeed, the chief characteristic of the book is the extreme care shown in outlining diagnostic features very systematically, even at the risk of repetition, and then covering each point with but a few words of description or explanation. Considerable space is given to a consideration of the pessary and of electricity as a therapeutic measure. The Roentgen ray, the Finsen light, radioactivity, Pincus' atmocausis therapy and opsonic treatment are discussed briefly. The indications and contradindications for pelvic massage are well considered, as are other general subjects, such as diet, exercise and dress reform.

One of the most valuable chapters in the volume is that on lacerations and fistulæ. This subject is exceptionally well presented, although nothing new is added. This holds true, as well, in discussing trachelorrhaphy and all plastic operations on the cervix.

In the treatment of uterine fibromyomata, the author favors palliative systemic and local treatment, resorting to operation where the tumor is causing symptoms that plainly can not be corrected by other measures. At the same time, he emphasizes the importance of not advising the patient to wait until serious symptoms have developed and that such symptoms usually are present early. In malignant disease of the uterus he considers carcinoma of the cervix separately from that of the corpus. Abdominal section is preferred in operable cases where the cervix is involved. In cancer of the corpus ordinary hysterectomy, either abdominal or vaginal, is deemed sufficient.

In the chapter devoted to pelvic infection, conservative treatment in the acute forms is advised, and non-operative measures in the chronic forms before operation is resorted to. In extrauterine pregnancy operation on diagnosis is advised in nearly every case. Ovarian and parovarian tumors are discussed ably. Malformations of the genitalia, on the other hand, are given but two pages of illustrations and one of text, surely an inadequate treatment of so broad a subject. Disturbances of function, such as amenorrhea, dysmenorrhea and sterility are also considered very briefly. An important chapter is that devoted to a discussion of abdominal and vaginal section. The last chapter is a short one on medicolegal points, and then is introduced a series of formulæ for internal and external use.

The medical rather than the operative treatment of the diseases of women is emphasized. Hence, those subjects amenable wholly or partially to operative work are passed over briefly.

For the student and general practitioner this volume undoubtedly possesses certain advantages. Generally speaking, the subject-matter is clearly outlined and definitely stated. Gynecologists, on the other hand, will see much in this work that is readily reminiscent of what is already in print. This is particularly true of the illustrations, over one-half of which have been selected from other works. While some of these pictures are redundant, as is demonstrated on pages 40, 136 and 137, for example, yet the selections have been made carefully and full credit is given. The chief defect is the omission of laboratory diagnosis, save for that given in the pages on gonorrhea, without which no text on this subject is complete to-day.

The book has been well put forth, the print is clear, the margins are generous enough and the type is large. Perhaps a too abundant use is made of the broad-faced font, so as to lose the effect desired. It is to be regretted that in a work of such physical proportions more care was not exercised in the proof reading, typographical errors being profuse. The illustrations are excellent, not only elucidating the text, but occasionally even supplanting it, as is the case on page 715, in the paragraph given to varicose veins of the broad ligament.

ESSENTIALS OF MILK HYGIENE. A Practical Treatise on Dairy and Milk Inspection and on the Hygienic Production and Handling of Milk for Students of Dairying and Sanitarians. By C. O. Jensen, Professor in the Royal Veterinary and Agricultural College of Copenhagen, Denmark. Translated and Amplified by Leonard Pearson, Dean of the Veterinary Faculty of the University of Pennsylvania. Illustrated. Cloth. Pp. 275. Price, $2.00. Philadelphia and London: J. B. Lippincott Co., 1907.

The importance of the proper supervision of the milk traffic is attracting wide attention and an English edition of this work of Professor Jensen, whose experience and standing lend weight to his views on many phases of the question, will surely be welcome. Copenhagen has long been in the lead in the care of the milk supply, and is singularly fortunate in the possession of commercial concerns that, so far from being merely acquiescent followers in the matter, have done pioneer work, carrying their control to a point far in advance of anything contemplated by the public authorities.

The subject matter of the book is divided into: 1, Milk and its composition; 2, the injurious properties that milk may possess; 3, pasteurization and sterilization of milk; 4, the use of milk for infants. The first part is gone into with detailed completeness. The physiologic chemistry is so lucidly described as to present no serious difficulties, even to those whose acquaintance with this comparatively recent science is of the most meager character. In Part II, the addition of various substances, especially preservatives, the absorption of odors, and the transmission of infection by milk are considered. The work of the various observers on the relation of milk to tuberculosis is appraised with fairness. Jensen discusses, in a very judicial and dispassionate manner, the dictum of Koch that bovine and human tuberculosis are not identical, and also the three important questions arising therefrom. While he admits that the identity of the two kinds of bacilli is still an open question, he gives cogent reasons for concluding that tuberculosis is undoubtedly not so infrequently caused by food as Koch affirms; that the transmission of human tuberculosis to cattle can be affected by inoculation; and that bovine tuberculosis is transmissible to man. He discusses other diseases having milk as a possible means of infection either from disease in the animal or as a consequence of contamination from without.

Pages 157 to 237 are taken up with matter relating to the public control of the production and handling of milk. The standards and tests are clearly described, as also are the detecting of adulterations and preservatives, and bacterial investigation. An interesting feature is the appendices, and especially that containing the regulations governing the Trifolium Milk Supply Company in Copenhagen. The original text is elucidated and illustrated by notes and comments by Professor Pearson. The entire subject is one of special moment to every physician.

A VERY YOUNG OVUM IN SITU. By Prof. G. Leopold, Geheimer Medizinalrat, Director of the Royal Gynecologic Clinic and School for Midwifery. Authorized English translation, by W. H. Vogt, M.D., Gynecologist and Obstetrician to the Lutheran Hospital, St. Louis. Cloth. Pp. 69, with 16 lithographic plates. Price, $3.50. St. Louis: C. V. Mosby Co., 1907.

This monograph is an exhaustive microscopic study of an ovum from a young woman who committed suicide by taking phosphorus. After the organs had been hardened in formalin and alcohol, repeated and careful examinations of the endometrium were made with a magnifying glass. At first nothing was detected, but finally a small spot was found, lighter than the surrounding tissue, situated on the posterior wall of the corpus uteri. This spot was carefully excised, hardened and cut into a continuous series of sections. Examination showed that the middle 160 sections comprised a very small ovum, measuring 1.4 mm. long, 0.9 mm. deep and 0.8 mm. wide. No positive information could be obtained regarding the exact age of the ovum. The results of careful and exhaustive study of the 160 sections are embodied in the monograph, illustrated by 16 lithographed plates, comprising 28 figures beautifully printed in colors. The author sums up the results of his work as follows:

"The following are some of the points in which my views have changed as a result of the study of this youngest ovum and are now at variance with views formerly expressed: the origin of Langhans' cells, the decidua of uterine epithelium in the neighborhood of the ovum, the origin of the intervillous spaces, and a few others. A further advance of our knowledge of this problem depends on the discovery of more very young human ova in situ, coming, if possible, from patients who have died suddenly, but not as suicides. These specimens must be carefully preserved, painstakingly examined and microscopic pictures reproduced in illustrations which are true to nature."

OPERATIONS OF GENERAL PRACTICE. Edred M. Corner, M.A., M.C., M.B. (Cantab.), B.Sc. (Lond.), F.R.C.S. (Eng.), and H. Irving Pinches, M.A., M.B., B.C. (Cantab.), M.R.C.S., L.R.C.P. (Lond.). Pp. 296. Cloth. Price, $5.50. New York: Oxford University Press, 1907.

The object of this book is to bridge over the gap between the knowledge of the general practitioner and that imparted by elaborate text-books of surgery. As the writers state, "The education of the vast majority of medical men is deficient in the practice and performance of the many small operations which lie so largely on the borderland between medicine and surgery and which all practitioners are called on to perform frequently." The first chapter is devoted to general considerations, such as asepsis and antisepsis, sterilization, choice of instruments, suture material, different forms of dressings. The use of the *x*-ray in minor surgery is also considered. The second chapter is devoted to anesthetics and method of administration. Then follow two chapters on surgery of the head and one on each of the following subjects: neck, chest, abdomen, male and female genitourinary organs, rectal region and the limbs. No attempt is made to discuss the larger surgical problems or to give alternative methods of treatment, as the scope of the book does not admit of such discussion. In the chapter on the neck, for instance, the following subjects are considered: abscesses and cellulitis of the neck, carbuncles and boils, lipomata, tuberculous glands, tracheotomy, laryngotomy, intubation and foreign bodies in the larynx, retropharyngeal abscess, tenotomy of the sternomastoid for torticollis. The book is well illustrated and attractively printed and bound. General practitioners who do not care to devote time to surgical work and yet are compelled to do occasional minor surgical work will find in this book much of interest and value.

MINOR SURGERY. By Edward Milton Foote, A.M., M.D., Instructor in Surgery, College of Physicians and Surgeons (Columbia University). Cloth. Pp. 752, with 407 illustrations. Price, $5.00. New York: D. Appleton & Co., 1908.

Dr. Foote states, in his preface, that his object has been to apply to the less serious every-day problem of surgical practice the new knowledge which the discoveries of the last twenty-five years have revealed. The field of minor surgery, he says, is the only one which the average practitioner will ever enter. It is also the one in which most of surgeons will find the majority of their patients, yet, as he truly says, the physician, untaught regarding minor surgery, fails to achieve good results and performs more bad surgery on the hands than on the organs of the abdomen. This statement will be endorsed by all those who have had occasion to review the surgical work of the average practitioner, yet what else can be expected when the average medical student is given abundant instruction regarding hysterectomy for carcinoma, an operation which he will probably never perform, and is told little or nothing regarding infections of the hand or foot, which may come to him at any hour of the day. Two things impress one in looking over this work. The first is the absence of conventional and stereotyped consideration of the different subjects. The second is the number and practical value of the illustrations. A very commendable feature is the legend under most of the illustrations, giving some idea of the duration, severity, etc., of the lesion portrayed. For instance, one is marked, "Abscess under sternomastoid muscle. Six months' duration; probably tubercular. Patient aged 56 years." Another reads, "Abscess of neck. Duration two weeks; secondary to pediculosis capitis occurring in child of 2 years." Four successive photographs of a patient with carbuncle of the neck show the beginning stage, two successive stages of inflammation and one of cicatrization. To the general practitioner Dr. Foote's book will be of decided and constant value.

INSANITY AND ALLIED NEUROSES. A Practical and Clinical Manual. By George H. Savage, M.D., F.R.C.P., Late Physician and Superintendent of Bethlehem Royal Hospital, etc., with the Assistance of Edwin Goodall, M.D. (Lond.), B.S., etc.; Medical Superintendent of the Cardiff City Hospital for Mental Diseases. Cloth. Pp. 624. Illustrated. New Edition. Price, $2.75 net. Chicago: W. T. Keener & Co., 1907.

This fourth edition of this manual has been revised throughout and special attention given to the pathology of the several disorders. Dr. Goodall is a well-known British alienist, and in addition Dr. Savage has had the advice and help of Dr. Mott, the pathologist of the London County Council's laboratory, who, as an authority on his specialty, is second to none in Great Britain. As might be expected, therefore, the work has been brought well up to date and is comprehensive enough to fairly cover the ground indicated in its title.

SURGICAL EMERGENCIES. By Percy Sargent, M.A., M.B., B.C. (Cantab.), F.R.C.S., Assistant Surgeon to the National Hospital for the Paralyzed and Epileptic. Cloth. Pp. 256. Price, $2.00. New York: Oxford University Press, 1907.

As stated in the preface, the author lays no claim to completeness, but states that the book "is rather of the nature of an essay based on an experience gained during some eight years' immediate association with the surgical side of St. Thomas Hospital." A number of the emergencies more frequently encountered are discussed, among them being hemorrhage, burns scalds, fractures, acute infective and abdominal diseases, injuries of the abdomen, strangulated hernia, respiratory obstruction, injuries of the neck, chest, nervous system, eye and ear. Avoiding unnecessary details, the author has confined himself to the essential points of emergency treatment.

ANESTHETICS AND THEIR ADMINISTRATION. A Text-book for Medical and Dental Practitioners and Students. By Frederic W. Hewitt, M.V.O., M.A., M.D., Cantab., Anesthetist to His Majesty the King. Third Edition with Illustrations. Cloth. Pp. 627. Price, $4.00 net. London and New York: The Macmillan Co., 1907.

This work is well arranged from a practical as well as from a clinical standpoint. The author first considers the physiology and pharmacology of anesthetics; second, the selection of the anesthetic and the preparation of the patient; third, the methods of administration of the various anesthetics and their mixtures and sequences; fourth, the accidents and dangers liable to be associated with surgical anesthesia and their prevention and treatment; fifth, the postoperative dangers of anesthetics. Hewitt apparently favors the closed method of giving ether which has fallen somewhat into disfavor in this country. Considerable space is given to the method of administering nitrous oxid.

HISTORY OF NURSING. By Adelaide Nutting, R.N., President of the American Federation of Nurses, and Lavina L. Dock, R.N., Secretary of the American Federation of Nurses. Vol. I. Cloth. Pp. 549. Vol. II. Pp. 461. Price, $5.00. New York: G. P. Putnam's Sons, 1907.

This commendable piece of work fills a definite lack in medical lore. The task involved in collating from their scattered settings all the facts here presented must have been a great one, indeed. The work is well done, the illustrations many, and the style interesting. After discussing the evidences of treatment of sickness and injury by the lower animals, the work takes up nursing by primitive man and among the various nations previous to the Christian era, then by the women of the early church, the military and monastic nursing orders, etc., continuing through the work of Florence Nightingale and the Red Cross down to modern nursing.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

FOLIN'S QUANTITATIVE STUDY OF URINE.

GLENWOOD, IOWA, Jan. 31.

To the Editor:—Please inform us where we can obtain information in regard to Folin's simplified methods of quantitative study of the urine mentioned in an editorial in THE JOURNAL, Jan. 11, 1908. DEWITT AND BENSON.

ANSWER.—Folin's methods may be found by consulting the following: *"Eine neue Methode zur Bestimmung der Harnstoffe im Harne," Zeitsch. f. physiol. Chem.*, 1901, xxxii, p. 504. *"Ein einfaches Verfahren zur Bestimmung des Ammoniaks im Harne,"* ibid., p. 515.

Folin's method for urea is as follows: Three c.c. of urine are placed in a 200 c.c. Erlenmeyer flask, 2 c.c. of concentrated hydrochloric acid, 20 grams of magnesium chlorid, and a small piece of paraffin are added. The flask is then connected with a long glass safety tube to condense the vapors and prevent loss of material. The contents are boiled until each drop of reflow makes a very perceptible thump, the heat is then reduced and the boiling is continued one-half hour. Allow the contents of the flask to cool slightly and transfer the contents to a liter Kjeldahl flask washing out the original flask with about 500 c.c. of water. Add from 8 to 10 c.c. of 20 per cent. sodium hydrate solution and distill off the ammonia into 25 c.c. of n/10 sulphuric acid. In order to be certain that all the ammonia is driven off about 350 c.c. of distillate are necessary, which amount will ordinarily pass over within one hour. Titrate back the unused sulphuric acid, with n/10 sodium hydrate solution, using alizarin red as an indicator, titrating to the red point, and not to the purple. If phenolphthalein be used as an indicator, the distillate must be boiled to expel carbon dioxid. Each cubic centimeter of n/10 ammonia present equals 0.1 per cent. of urea, or 1 gram of nitrogen found represents 2,143 grams of urea. From this figure the amount of preformed ammonia, as well as that present in the magnesium chlorid, must be subtracted.

Folin's method for determining ammonia is as follows: Set up a battery of four glass bottles. In the first, place 50 c.c. of 10 per cent. sulphuric acid to catch all ammonia which may be present in the air forced through the series of bottles. In the second bottle, place 50 c.c. of 10 per cent. sodium carbonate solution to catch any acid that may be forced from the first bottle. In the third bottle, place 10 grams of sodium chlorid, 25 c.c. of urine, and 10 c.c. of benzin or kerosine to prevent foaming in the mixture. In the last wash bottle, place 50 c.c. of n/10 sulphuric acid. When the bottles are all filled, connect them, in the order given, with tight-fitting rubber tubing, and connect the bottle, containing 10 per cent. sulphuric acid with a current of compressed air. One dram of dry sodium carbonate is then added to the bottle containing urine, and a steady current of air is forced through the bottles for one and one-half hours, at the end of which time the ammonia will have been driven from the urine into the n/10 acid solution.

At the ordinary temperature of the laboratory, this ammonia is all driven over, but it may be advisable to heat the flask containing the urine to a temperature ranging between 40 and 50 C. Titrate back the excess of sulphuric acid with n/10 sodium hydroxid, using alizarin red or rosolic acid as an indicator and calculate the amount present in the 25 c.c. of urine, each cubic centimeter of sulphuric acid used representing 0.001707 grams of ammonia.

The above method is a slight modification of that originally proposed by Folin, who uses a suction pump to draw the air through the bottles instead of forcing it through from the compressed air cylinder. If Folin's original method be used, it will be necessary to arrange the bottles in a different order so that the stream is drawn through the urine into the standard acid.

TRYPSIN IN THE TREATMENT OF CANCER.

BILTMORE, N. C., Jan. 20, 1908.

To the Editor:—Please let me know the result of the use of trypsin on inoperable cancer. I have seen nothing in THE JOURNAL lately on the subject. I have a case of rectal carcinoma in which I am especially interested, and I should be greatly obliged if you would let me know if the latest reports would justify its employment. When in New York a year ago I tried to find out what was being accomplished in the matter, but what I saw and heard gave me no encouragement. I should like to know what difference, if any, another year's trial has made, and, if this method should be considered worth while, where detailed methods of treatment can be found. LAWRENCE E. HOLMES.

ANSWER.—While some of the early reports of cases treated by this method were extremely favorable, later ones indicate that no permanent results are to be expected. Some physicians have observed such untoward results as to justify caution in using this form of treatment. The following articles on this subject have appeared during the past year:

"Trypsin Treatment of Cancer:" W. P. Graves, *Boston Medical and Surgical Journal*, Jan. 31, 1907; abstracted in THE JOURNAL, Feb. 16, 1907, page 644.

"Trypsin Treatment of Malignant Disease:" J. T. Campbell, THE JOURNAL, Jan. 19, 1907, p. 225.

"Trypsin Treatment of Cancer:" J. W. Luther, *New York Medical Journal*, Feb. 23, 1907; abstracted in THE JOURNAL, March 9, 1907, p. 904.

"Trypsin in Cancer:" W. S. Bainbridge, *New York Medical Journal*, March 2, 1907, abstracted in THE JOURNAL, March 16, 1907, p. 974.

"Trypsin in Treatment of Cancer:" E. v. Leyden and P. Bergell, *Zeitschrift f. klinische Medicine*, vol. lxi, Nos. 3 and 4, abstracted in THE JOURNAL, May 4, 1907, p. 1556.

"Trypsin in Epithelioma of the Larynx:" H. Dupuy, *New Orleans Medical and Surgical Journal*, July, 1907; abstracted in THE JOURNAL, July 13, 1907, p. 189.

"Trypsin Treatment in Malignant Disease:" A. Cutfield, *British Medical Journal*, Aug. 31, 1907; abstracted in THE JOURNAL, Sept. 28, 1907, p. 1148.

"A Word for Trypsin:" A. K. Matthews, *Medical Press and Circular*, London, Oct. 2, 1907; abstracted in THE JOURNAL, Nov. 2, 1907, page 1562.

"Trypsin in Treatment of Cancer:" Abstract of paper read by W. P. Graves, at meeting of Boston Medical Library, THE JOURNAL, Dec. 7, 1907, p. 1950.

"Trypsin in Treatment of Malignant Tumors:" W. P. Graves, *Boston Medical and Surgical Journal*, Jan. 23, 1908; abstracted in THE JOURNAL, Feb. 8, 1908, p. 479.

"Cancer: Its Etiology and Treatment by Trypsin": J. Alcindor, *British Medical Journal*, Jan. 11, 1908, abstracted in THE JOURNAL, Feb. 8, 1908, p. 486.

Of course the time since the introduction of the treatment is too short to form any very definite opinion as to the value of trypsin in the treatment of carcinoma. Reports seem to indicate that in many cases diminution in size of the tumor, lessening of pain and removal of discomfort have followed the application of this method. How far a natural tendency to cure of the disease in isolated cases and to remission in others may be responsible for these results it is impossible to say. The report from v. Leyden's clinic indicates that while there may be great possibilities in trypsin or pancreatin the proper method of using it has not yet been learned. W. P. Graves has used the ferment in a considerable number of cases, but bases his conclusions on six cases of recurrent cancer; all were observed for at least six months, and most of them for fourteen months. In all there was a gradual inevitable progress of the disease to a fatal termination in four; two patients are living, but will undoubtedly die within a few months. In spite of this unfavorable result Graves has seen such improvement in the local condition as to encourage him to continue the treatment in suitable cases. Experience so far gives no ground for expecting a cure or even a great prolongation of life, but, in view of the comfort which the reports indicate has been given to some patients by reduction of the local inconveniences, a trial of the method may be justified in strictly inoperable cases in which other treatment is of no avail.

DIPHTHERIA ANTITOXIN IN THE TREATMENT OF EXOPHTHALMIC GOITER.

OMAHA, Feb. 4, 1908.

To the Editor:—Some time ago I reported several cases of exophthalmic goiter treated with diphtheria antitoxin, with good results. Have since treated two more cases; results very favorable. Will those who have used this method kindly report cases to the undersigned, so that conclusions may be reached as to the value of the procedure? ADRIAN F. BURKHARD.

1902 S. 17th Street.

CASTORIA DECLARED A COMMON NAME.

HOMESTEAD, PA., Jan. 22, 1908.

To the Editor:—Can you tell me the volume of the United States court decisions in which you found the opinion written by Justice Brewer holding that, since the patent on the process of making Castoria had expired, the name Castoria, being the only name to designate the article, became a common name and therefore free for use? Not knowing the year in which the decision was rendered, nor the names of the plaintiff and defendant, I could not find it without looking over each volume in the series, which would be a month's job. D. T. POWELSON, M.D.

ANSWER.—The United States Court of Appeals, Eighth Circuit, rendered a decision, Jan. 10, 1898, in the case of Centaur Company vs. Heinsfurter et al., in which the opinion was prepared by Circuit Justice Brewer, which may be found in 56 U. S. App. 7; 28 C. C. A., 581; or 84 Fed. 955.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Feb. 8, 1908:

Carter, E. C., surgeon, and Morse, A. W., asst.-surgeon, appointed members of an Army retiring board at Fort Leavenworth, Kansas.

Talbott, E. M., asst.-surgeon, relieved from duty at Fort Leavenworth, Kansas, and ordered to duty with the Army of Cuban Pacification.

Miller, E. W., asst.-surgeon, relieved from duty with the Army of Cuban Pacification, and assigned to duty as surgeon, U. S. A. transport *Kilpatrick*.

Bourke, James, asst.-surgeon, relieved from duty as surgeon of the U. S. A. transport *Kilpatrick* and ordered to Fort Leavenworth, Kansas, for duty.

Munson, E. L., surgeon, left Fort Sheridan, Ill., on 10 days' leave of absence, with permission to apply for an extension of 20 days.

Tignor, E. P dental surgeon, ordered from Fort DuPont, Del., to Frankfort Arsenal, Pa., for temporary duty.

Whinnery, J. C., dental surgeon, arrived at Fort Liscum, Alaska, for duty.

Marshall, J. S., examining and supervising dental surgeon, relieved from duty at the Army General Hospital, Presidio of San Francisco, Cal., and ordered to proceed on transport sailing March 5, for Philippine service.

Ames, J. E., dental surgeon, ordered from Onancock, Va., to Fort Leavenworth, Kansas, for duty.

Hess, J. H., examining and supervising dental surgeon, relieved from duty at Fort Leavenworth, Kansas, and ordered to report for duty at the Army General Hospital, Presidio of San Francisco, Cal.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Feb. 8, 1908:

W. A. McClurg, medical director, commissioned medical director from June 16, 1907.

Orvis, R. T., surgeon, commissioned surgeon from March 1, 1905.

McDonnell, W. N., P. A. surgeon, detached from duty at the Naval Hospital, New York, and ordered to the Naval Recruiting Station, Chicago.

Wheeler, L. H., asst.-surgeon, ordered to the Naval Training Station, Newport, R. I.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and noncommissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Feb. 5, 1908:

Stoner, G. W., surgeon, directed to proceed to Malone, New York, for special temporary duty, on completion of which to rejoin his station at Ellis Island, N. Y.

Carmichael, D. A., surgeon, directed to proceed to Fort Stanton, N. M., and St. Louis, for special temporary duty; on completion of which to rejoin his station at Buffalo, N. Y., returning via Washington, D. C.

Brooks, S. D., surgeon, granted an extension leave of absence on account of sickness for ten days.

Young, G. B., surgeon, detailed to represent the service at the Third Annual Convention of the American Society of Inspectors of Plumbing and Sanitary Engineers to be held at Chicago, Feb. 10-12, 1908.

Sprague, E. K., P. A. surgeon, granted leave of absence for 10 days from Feb. 11, 1908.

Wickes, H. W., P. A. surgeon, granted leave of absence for two days from Jan. 28, 1908, under Paragraph 189, Service Regulations.

Corput, G. M., P. A. surgeon, directed to proceed to Austin, Texas, for special temporary duty; on completion of which to rejoin his station at Galveston, Texas.

McLaughlin, A. J., P. A. surgeon, relieved from duty at Naples, Italy, and directed to proceed to Manila, P. I., reporting to the Chief Quarantine Officer for duty.

Earle, B. H., P. A. surgeon, granted leave of absence for seven days from Feb. 4, 1908.

Francis, Edward, P. A. surgeon, granted extension leave of absence for seven days.

Boggess, J. S., P. A. surgeon, relieved from duty at St. John, N. B., and directed to proceed to Chicago, reporting to the medical officer in command for duty and assignment to quarters.

Foster, A. D., P. A. surgeon, granted leave of absence for one month from Feb. 10, 1908.

Spratt, R. D., asst.-surgeon, leave of absence granted for 21 days from Jan. 14, 1908, amended to read for 11 days only.

Wollenberg, R. A. C., asst.-surgeon, relieved from duty at Ellis Island, N. Y., and directed to proceed to Naples, Italy, for duty.

Blount, B. B., acting asst.-surgeon, granted leave of absence for 30 days from Jan. 31, 1908.

Hicks, W. R., acting asst.-surgeon, excused from duty without pay, Dec. 15 to 23, 1907, inclusive.

Keatley, E. W., acting asst.-surgeon, granted leave of absence for five days from Jan. 14, 1908, under Paragraph 210, Service Regulations.

Moncure, J. A., acting asst.-surgeon, granted leave of absence for 30 days from Feb. 20, 1908.

Walker, R. T., acting asst.-surgeon, granted leave of absence for four days from Feb. 18, 1908.

BOARD CONVENED.

A board of medical officers was convened to meet at San Francisco, Feb. 3, 1908, for the purpose of making a physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon H. W. Austin, chairman, and P. A. surgeon C. H. Gardner, recorder.

CASUALTY.

Williamson, Stacy D., acting asst.-surgeon, died Jan. 25, 1908.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service during the week ended Feb. 7, 1908:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Jan. 12-26, 7 cases.

California: Los Angeles, Jan. 11-18, 3 cases; San Francisco, Jan. 11-18, 5 cases.

District of Columbia: Washington, Jan. 12-25, 15 cases.

Georgia: Augusta, Jan. 11-28, 1 case (imported).

Illinois: Chicago, Jan. 18-25, 3 cases; Springfield, Jan. 16-23, 7 cases.

Indiana: Elkhart, Jan. 18-25, 1 case; Indianapolis, Jan. 12 19, 1 case; Terre Haute, Jan. 18-25, 1 case.

Kansas: Topeka, Jan. 18-25, 3 cases; Wichita, 4 cases.

Louisiana: New Orleans, Jan. 18-25, 4 cases.

Kentucky: Lexington, Jan. 18-25, 3 cases.

Michigan: Grand Rapids, Jan. 11-18, 6 cases; Saginaw Jan. 11-25, 36 cases.

Missouri: Kansas City, Jan. 11-18, 2 cases; St. Louis, Jan. 18-25, 5 cases.

Montana: Butte, Jan. 4-21, 3 cases (from railway camps).

New Mexico: Albuquerque, to Jan. 26, 15 cases.
New York: Buffalo, Jan. 18-25, 1 case.
Ohio: Cincinnati, Jan. 17-24, 17 cases; Toledo, Jan. 18-25, 1 case.
South Dakota: Sioux Falls, Jan. 11-18, 12 cases.
Tennessee: Knoxville, Jan. 18-25, 8 cases; Nashville, Jan. 8-25, 13 cases.
Texas: Houston, Jan. 11-18, 3 cases; San Antonio, 2 cases.
Washington: Spokane, Jan. 11-18, 10 cases; Tacoma, 4 cases.
Wisconsin: La Crosse, Jan. 18-25, 5 cases; Milwaukee, Jan. 11-25, 3 cases.

SMALLPOX—FOREIGN.

Brazil: Bahia, Nov. 30-Dec. 28, 103 cases; Para, Dec. 28-Jan. 11, 15 cases, 9 deaths; Rio de Janeiro, Dec. 22-29, 30 cases, 4 deaths.
Canada: Halifax, Jan. 18-25, 1 case; Winnipeg, Jan. 18-25, 10 cases; New Brunswick, Albert County, Jan. 30, outbreak.
China: Hankow, Dec. 14-21, 1 case; Shanghai, Dec. 15-22, 4 cases, 13 deaths (cases foreign, deaths native).
Ecuador: Guayaquil, Dec. 1-31, 8 deaths.
Egypt: Cairo, Dec. 24-Jan. 7, 1 case, 2 deaths.
France: Brest, Dec. 28-Jan. 11, 5 cases; Paris, Jan. 4-11, 7 cases, 1 death.
India: Bombay, Dec. 25-31, 7 deaths.
Italy: General, Jan. 2-9, 100 cases; Messina, Dec. 21-28, present.
Japan: Kobe, Dec. 28-Jan. 4, 256 cases, 91 deaths; Yokohama, Dec. 30-Jan. 6, 6 cases, 3 deaths.
Java: Batavia, Dec. 7-14, 3 cases.
Malta: Dec. 22-Jan. 11, 8 cases.
Mexico: Aguas Calientes, Jan. 25-26, 6 deaths; Manzanillo, Dec. 1-31, 2 cases; Mexico, Dec. 7-21, 3 deaths; Monterey, Jan. 5-19, 2 deaths; Nuevo Laredo, Jan. 28, 1 case.
Netherlands: Rotterdam, Jan. 4-11, 2 cases.
Russia: Moscow, Dec. 21-Jan. 4, 25 cases, 8 deaths; Odessa, Dec. 28-Jan. 11, 6 cases, 6 deaths; Riga, 6 cases; St. Petersburg, Dec. 14-Jan. 4, 23 cases, 9 deaths; Moscow, Oct. 26-Nov. 15, 57 deaths.
Spain: Denia, Jan. 4-11, 6 cases, 2 deaths; Valencia, Jan. 3-12, 28 cases, 4 deaths; Vigo, Jan. 4-11, present.
Turkey in Europe: Constantinople, Dec. 22-Jan. 5, 11 deaths.
Turkey in Asia: Bagdad, Nov. 30-Dec. 14, 60 cases, 10 deaths.

YELLOW FEVER.

Brazil: Para, Dec. 28-Jan. 11, 27 cases, 17 deaths.
Cuba: Cienfuegos, Jan. 11-18, present in vicinity.
Ecuador: Guayaquil, Dec. 1-31, 3 deaths.
Honduras: Interior towns, Jan. 27, present.
Trinidad: Jan. 4-11, 3 cases, 2 deaths.
India: Bombay, Dec. 14-21, 2 deaths; Cochin, Nov. 29-Dec. 6, 9 deaths; Rangoon, Dec. 14-21, 11 deaths; Tuticorin, 38 deaths.
Russia: General, Dec. 11-17, 55 cases, 17 deaths.
Turkey in Europe: Constantinople, Jan. 10, 3 cases; lazaretto, Dec. 30-Jan. 4, 46 cases, 36 deaths.

PLAGUE.

Arabia: Nivernais, Jan. 4, 1 case, 1 death; Djeddah, Dec. 30-Jan. 4, 20 cases, 9 deaths; Medina, Dec. 25-Jan. 3, 133 cases, 113 deaths; Mekka, Dec. 29-Jan. 4, 421 cases, 333 deaths; Yambo, Dec. 24-Jan. 3, 148 cases, 91 deaths.
Brazil: Bahia, Nov. 25-Dec. 28, 9 cases, 7 deaths; Rio de Janeiro, Dec. 22-29, 6 cases, 1 death.
Egypt: Alexandria, Dec. 13-25, 4 cases, 3 deaths; Dimetta, Dec. 22-28, 1 case; Provinces: Assiout, Dec. 19-30, 22 cases, 15 deaths; Minieh, Dec. 17-23, 1 case.
India: Bombay, Dec. 24-31, 6 deaths; Rangoon, Dec. 14-21, 1 death.
Japan: Nushima Island, Jan. 8, present; Osaka, Dec. 28-Jan. 4, increasing.
Peru: Callao, Dec. 18-25, 1 case, 2 deaths; Catacaos, 2 cases, 1 death; Ferrenafe, 3 cases; Jequetepeque, 4 cases; Paita, 18 cases, 15 deaths; San Joronimo, 15 cases; Trujillo, 20 cases, 8 deaths.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

CONNECTICUT State Board of Medical Examiners, City Hall, New Haven, March 10. Secretary, Dr. Charles A. Tuttle, 196 York St., New Haven.

CONNECTICUT Homeopathic Board of Medical Examiners, New Haven, March 10. Secretary, Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.

CONNECTICUT Eclectic Board of Medical Examiners, New Haven, March 10. Secretary, Dr. T. S. Hodge, 16 Main St., Torrington.

IOWA State Board of Medical Examiners, Capitol Building, Des Moines, March 10-12. Secretary, Dr. Louis A. Thomas, Des Moines.

MASSACHUSETTS Board of Registration in Medicine, Room 15, State House, Boston, March 10-12. Secretary, Dr. Edwin B. Harvey, Room 159, State House, Boston.

MAINE Board of Registration of Medicine, State House, Augusta, March 17-18. (Note change of place from Portland.) Secretary, Dr. William J. Maybury, Saco.

Illinois Medical Colleges Not Recognized.—Information comes to us from Dr. J. A. Egan, secretary of the Illinois State Board of Health, that the following medical schools of Chicago have been declared not in good standing:

National Medical University.
Reliance Medical College.
Jenner Medical College.
American Medical Missionary College.
College of Medicine and Surgery (Physio-Medical).

This information indicates that the Illinois Board of Health will do its share in bringing about fairer standards of medical education and licensure. In taking this action the board will doubtless have the endorsement not only of the medical profession and of the various state examining boards, but of the public also.

Pennsylvania June and December Reports.—The office of the Medical Council of Pennsylvania reports the examination held by the State, Homeopathic and Eclectic medical societies of Pennsylvania, at Philadelphia, Pittsburg and Harrisburg, June 25-28, and Dec. 3-6, 1907. The number of subjects examined in at these examinations was 7; percentage required to pass, 75.

At the examination held by the State Medical Society, at Philadelphia and Pittsburg, June 25-28, the total number of candidates examined was 367, of whom 328 passed and 39 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Total No. Examined.
Denver and Gross Coll. of Med.	(1907)	1
George Washington University	(1904), (1907)	2
Georgetown University	(1906)	1
Kentucky University	(1906)	2
University of Louisville	(1907)	1
Maryland Med. Coll.	(1907)	1
Coll. of P. and S., Baltimore	(1904), (3, 1906), (5, 1907)	9
Baltimore Med. Coll.	(1894, (1895), (1904), (1906), (5, 1907)	9
Johns Hopkins Med. School	(3, 1906), (8, 1907)	11
University of Maryland	(1906), (3, 1907)	4
Harvard Med. School	(1904), (1906)	2
Albany Med. Coll.	(1907)	1
University of Buffalo	(1906), (1907)	2
New York Woman's Med. Coll. and Hosp.	(1894)	1
Leonard School of Med.	(1906)	3
Western Reserve University	(1907)	1
Cleveland Coll. of P. and S.	(1907)	1
University of Pennsylvania (2, 1904), (1905), (6, 1906), (73, 1907)		82
Jefferson Med. Coll.	(1903), (1905), (6, 1906), (54, 1907)	62
Western Pennsylvania Med. Coll.	(1904), (1905), (2, 1906), (37, 1907)	41
Woman's Med. Coll. of Pennsylvania.	(2, 1906), (11, 1907)	13
Medico-Chirurgical Coll., Philadelphia	(2, 1905), (3, 1906), (64. 1907)	69
Temple College of Med.	(1907)	4
University of the South	(1904)	1
University of Virginia	(1902)	1
University of Budapest, Hungary	(1904)	1
University Catania, Italy	(1905)	1
University of Naples, Italy	(1898)	1

FAILED.		
Howard University, Washington	(1904)	1
Kentucky School of Med.	(1904)	1
Maryland Med. Coll.	(1906), (4, 1907)	5
Baltimore Med. Coll.	(1907)	3
College of P. and S., Baltimore	(1904)	1
University of Maryland	(1906)	1
Detroit College of Med.	(1906)	1
St. Louis Coll. of P. and S.	(1901), (1905), (1906)	3
Ensworth Medical College, St. Joseph	(1892)	1
Leonard School of Med.	(1906)	1
Starling Med. Coll.	(1903)	1
Ohio Medical University	(1900)	1
Western Penna. Med. Coll.	(1905), (1906), (6, 1907)	8
Jefferson Med. Coll.	(1906), (4, 1907)	5
Medico-Chirurgical College, Philadelphia	(1907)	1
University of the South	(1904)	1
Meharry Med. Coll.	(1907)	1
University of Virginia	(1907)	1
University of Naples, Italy	(1906)	1
University of Prague, Bohemia	(1900)	1

At the examination held by the Homeopathic Medical Society at Philadelphia, June 25-28, the total number of candidates examined was 47, of whom 46 passed and 1 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Total No. Examined.
University of Michigan, Homeo. Dept.	(1907)	1
Boston University	(1906)	1
Hahnemann Med. Coll., Philadelphia	(2, 1906), (36, 1907)	38
Woman's Med. Coll. of Pennsyvania	(1907)	1
Cleveland Homeo. Med. Coll.	(1, 1904), (3, 1907)	4
Pulte Med. Coll.	(1907)	1

FAILED.		
Hahnemann Med. Coll., Philadelphia	(1907)	1

At the examination held by the Eclectic Medical Society at Harrisburg, June 25-28, the total number of candidates examined was 22, all of whom passed. The following colleges were represented:

PASSED. College.	Year Grad.	Total No. Examined.
Bennett Coll. of Ecl. Med. and Surg.	(1907)	2
College of Med. and Surg., Chicago	(1901)	1
University of Louisville	(1905)	1
Maryland Med. Coll.	(1906) (3, 1907)	4
College of P. and S., Baltimore	(1907)	1
Baltimore Med. Coll.	(1907)	1
Medico-Chirurgical Coll., Philadelphia.	(1898), (2, 1903) (1906) (4, 1907)	8
Eclectic Med. Inst., Cincinnati	(1907)	4

At the examination held by the State Medical Society at Philadelphia, December 3-6, the total number of candidates

examined was 88, of whom 59 passed and 29 failed. The college and year of graduation for one candidate who passed was not given. The following colleges were represented:

College.	Year Grad.	Total No. Examined.
PASSED.		
Howard Univ., Washington....(1904) (1906)	(4, 1907)	6
George Washington University	(1907)	2
Georgetown University	(1906)	1
University of Louisville	(1907)	1
College of P. and S., Baltimore....(2, 1905)	(3, 1907)	5
University of Maryland	(1905) (1907)	2
Maryland Med. Coll.	(1907)	1
Baltimore Med. Coll.	(1907)	3
College of P. and S., Boston	(1906)	1
Johns Hopkins Med. School	(1907)	1
Leonard Med. School	(1907)	1
Syracuse University	(1907)	1
Columbia University	(1904)	1
Miami Med. Coll.	(1906)	1
Med. Coll. of Ohio	(1903)	1
Temple Coll. of Med., Phila.	(1906)	1
Woman's Med. Coll. of Pennsylvania	(1899)	1
University of Pennsylvania (1899) (1904) (1905)	(1906)	4
Jefferson Med. Coll....(1901) (1905) (1906)	(7, 1907)	10
Western Pennsylvania Med. Coll.	(1907)	5
Medico-Chirurgical Coll., Philadelphia..(2,1906)	(1907)	3
University of Virginia....(1906)	(1907)	2
University of Vermont	(1907)	1
University of Bukharest, Roumania	(1906)	1
University of Rome, Italy	(1899)	1
University of Vienna, Austria	(1906)	1
University of Switzerland	(1903)	1
FAILED.		
Howard University, Washington	(1907)	1
Illinois Med. Coll.	(1901)	1
National Med. University	(1907)	1
Louisville Med. Coll.	(1907)	1
Kentucky School of Med.	(1907)	1
Maryland Med. Coll....(1906)*	(3, 1907)*	4
Baltimore University	(1898)	1
College of P. and S., Baltimore	(1907)	1
Baltimore Med. Coll.	(1907)	3*
Detroit Coll. of Med.	(1906)	1*
St. Louis Coll. of P. and S.	(1905)	1*
Medico-Chirurgical Coll., Philadelphia....(1905)	(1907)	2
Western Penna. Med. Coll...(1906);*	(1907); (3, 1907)*	5
Jefferson Med. Coll.	(1906)* (1907)	2
University of the South	(1904)	1*
University of Vienna, Austria	(1903)	1
University of Naples	(1906)	1*
University of Rome, Italy	(1905)	1

At the examination held by the Homeopathic Medical Society at Philadelphia, December 3-6, the total number of candidates examined was 6, of whom 5 passed and 1 failed. The following colleges were represented:

College.	Year Grad.	Total No. Examined.
PASSED.		
Atlantic Med. Coll., Baltimore	(1907)	1
Cleveland Univ. of Med. and Surg.	(1897)	1
Hahnemann Med. Coll., Philadelphia....(2, 1906)	(1907)	3
FAILED.		
Hahnemann Med. Coll., Philadelphia	(1907)	1*

At the examination held by the Eclectic Medical Society at Philadelphia, December 3-6, the total number of candidates examined was 6, of whom 5 passed and 1 failed. The following colleges were represented:

College.	Year Grad.	Total No. Examined.
PASSED.		
American Coll. of Med. and Surg.	(1907)	1
Louisville Med. Coll.	(1907)	2
College of P. and S., Baltimore	(1904)	1
Maryland Med. Coll.	(1907)	1
FAILED.		
Eclectic Med. Inst., Cincinnati	(1905)	1

* Second examination during 1907.

Another College Not Recognized.—We learn from Dr. W. T. Gott, secretary of the Indiana State Board of Medical Examiners, that recognition has been withdrawn from the Eclectic Medical College of Indiana, located at Indianapolis. Any students graduated there after 1908 will not be permitted to take the Indiana examination for license to practice.

A Stronger Medical Department at Tulane.—The Medical Department of Tulane University now has nearly a million dollars of endowment besides buildings and grounds valued at another half-million. New buildings for the work of freshman and sophomore years are being erected on the university campus and the university is endeavoring to secure additional professors of high-class ability, to devote their entire time to teaching and research. The last two—the clinical years—will continue to be given at the old site in connection with the Charity Hospital with its 900 beds, which receives $150,000 a year from the state of Louisiana.

Beginning with the present year, the requirement for admission to the medical school is a four-year high school course or its equivalent. This requirement, in 1910, will be further increased to include an additional year in the university in physics, chemistry, biology and languages.

The great advance at Tulane is most encouraging since it shows that in the movement to elevate the standards of medical education the South will do its full part.

Miscellany

A German's Impressions of American Medical Colleges.

The European travelers who, after a brief visit to America, have published their impressions of our country, have been sufficiently numerous. They have usually found much to blame and little to praise in American life. It is gratifying, therefore, to read so just and so kindly an account of American conditions and especially of our medical institutions as that given by Friedrich Müller in an address to the medical association at Munich (*Münch. med. Wochschr.*, Nov. 26, and Dec. 3, 1907). He remarks that the traveler naturally expects to find many things altogether different on the other side of the ocean, and this expectation is fulfilled in many respects, but careful observation soon shows how closely related the two countries are in many respects. Especially is this so in regard to medicine. Müller says:

"The medical science of America is most closely related to that of Germany. We find there the same views, the same problems and the same sort of investigation and, if we except the language, a great part of American medical literature might have been written in Germany. While French literature in many departments of medicine, e. g., in the pathology of metabolism, is difficult for us to understand because it proceeds from quite different conceptions, American literature is closely bound up with the German and in spite of the difficulty which the German language presents to foreigners we find among American scholars and physicians an astonishing acquaintance with German medical literature. Without doubt American medicine stands in closer relation to German medicine than that of France or even of England.

"One may say that the American physician knows Germany and the German language better than the German physician knows America and the English language. Many German professors who have traveled in America in the last few years have lectured in the American universities in the German language and been understood by the students."

Müller then goes on to describe the universities and university life of this country. He notes that the universities are mostly institutions of general culture, founded as a rule by philanthropic individuals or benevolent corporations instead of by the state. This, he says, applies mostly to the eastern part of the country. The courses correspond to a large extent to German gymnasium instruction, but the students are allowed a freedom of choice of studies unknown in the German institutions. The money paid by the students goes largely to the payment of running expenses and the donations of the founders are expended in the erection of new buildings so that the professors receive but a meager compensation. He says:

"A change must be brought about in this respect or the attractivenes of the academic career for young men of ability, but slender means, and the social position of the university professor will suffer. Energetic and talented young men will prefer to devote themselves to other pursuits which afford them better prospects of success. The patrons of the universities should consider that for the prosperity of a college the professors are of more importance than the buildings." He also says: "Alcohol plays no part in the life of the American university. In the dining halls only water and tea are served. It must further be emphasized that among the student body stricter views in regard to morals are prevalent than at many of our universities in the large cities, or even in those of France. Still, this is no peculiarity of the universities, but it is quite commonly recognized that especially in the life of the streets, on the billboards and exhibitions, as well as in the illustrated humorous papers, everything that may be regarded as obscene is avoided. This may be due in part to stricter police regulations, but in reality it is the public itself, and

especially the women, whose healthy sentiment and energetic action hinder the appearance of anything vulgar in word or picture. With this are connected the facts that venereal diseases play over there a smaller rôle than with us, that even in large hospitals there is no department for venereal patients, and that tabes is not so frequent as in Germany and France."

In describing medical instruction Müller takes his examples largely from schools of the highest grade and gives thereby a picture that may be designated as somewhat overdrawn. He finds, however, that in many respects the methods pursued in American medical schools are worthy of imitation. He notes also that on the average medical students in the United States are older than in Germany. He discusses the division of studies in the various years of the medical course, and mentions specially the fact that instruction in physiology and physiologic chemistry is conducted in a manner somewhat different from that in Germany, referring especially to the methods pursued at Bellevue, New York, and at Yale. He speaks highly of the instruction given in chemistry at some of the Cleveland colleges. He commends the method of using frogs and other small animals in teaching physiology, pathology, pharmacology, and even surgery, and states that in New York he looked over a notebook kept by a student which showed how students are stimulated to thought and observation by these experiments.

The conception of pathology in America, he declares, is quite different from that in Germany. At the German universities pathologic anatomy and histology are chiefly taught in the pathologic institutes; in America greater importance is attached to general pathology and especially experimental pathology. The reason for this, he thinks, may be to a certain extent the circumstance that in many states of the Union permission for making autopsy even in hospitals is obtained only with the greatest difficulty, and that correspondingly the opportunity for opening a dead body is relatively rare. He mentions especially the work done at the pathologic institute in Baltimore under the direction of Dr. Welch, and describes some of the experiments. He also praises the experimental surgery done by Cushing of Baltimore, and asks: "Why are we in Germany so afraid to apply experiment on animals to the instruction of students? Is this fear indeed only a result of the anti-vivisectionist agitation, and shall we refrain longer from doing that which we think proper on account of the exaggerated and often mendacious assertions of people who have no conception of the functions and needs of medicine?

"Is it not inconsistent," he asks, " that many physicians setting themselves up as specialists in diseases of the heart or of the stomach and intestines have never seen a beating heart or watched the movements of the intestines under the influence of ordinary medicines? The anti-vivisectionists say that animal experiments make the physician brutal; the opposite is correct, they secure understanding and deepen respect for the secret of life."

He answers the question decidedly in the affirmative and states that the student is assured of a better understanding of many pathologic processes by the practice of animal experimentation.

He then goes on to say:

"Clinical instruction in America is chiefly conducted by dividing the students of a year into small groups which are entrusted to single instructors. To each student is assigned certain patients which he has to investigate in all directions, even carrying out the examination of the urine, blood and sputum. The students must keep thorough clinical histories and they appear at the visit of the instructor with a bundle of history sheets under the arm. The control of these histories and the supervision of the students and of the department requires naturally a large force of instructors, and these are, indeed, the younger teachers who correspond in some degree to our privat-docents. The younger teachers have besides to hold two or three recitations a week in which the task is imposed on the students of preparing for each hour a selected chapter of some text-book employed in the school, so that they may recite and be questioned on it at the next hour. The teacher can in this way judge of the diligence of the students; he learns whether the fundamental conceptions are well grounded and the student has the opportunity to ask questions and express his doubts.

"This system of drill and control of diligence is foreign to German universities. With us it is left completely to the student whether he will learn something or not, and the teachers in our great schools do not stand in close relations with their hearers. Many of us trouble ourselves very little about how much or how little the student understands of his lectures. Certainly our universities should remain advanced schools and should be arranged more particularly for the more capable and diligent students. It is not right to curtail the mental pabulum for the best because stupid and lazy men press into the universities. But it is not permissible, on the other hand, utterly to neglect the latter category of students, and there is exhibited a sort of intellectual haughtiness when the lectures are kept on so high a level that only the best gifted and most diligent students get any good from them. Could not much more be done by us to fill up the breaks in the student's knowledge and to establish the fundamental principles without which a further understanding of the lectures is impossible? Is there really among our students no need for such recitations and drill as are customary in the American medical schools? Surely there is and it is satisfied, but, mostly outside the walls of the universities. It is well known that in Munich as also in other universities such recitation courses are held to prepare for examination in many departments of medicine, particularly such as require great exercise of the memory. . . . Would it not be better to include these recitations in the university course and make them legitimate than to leave them wholly to drill masters who are not controllable since they hold their courses outside the university? While they may be good teachers they often make it more their aim to drill into their examination candidates the peculiarities of the examiners than to instil into them a real intimacy with the material of science. If recitations on the American plan are to be introduced among us, it must be understood that to correspond to the spirit of our universities they must not be obligatory. The students must be free to take part in them or not. Any compulsion would be injurious. Many of the younger instructors who must now content themselves with poorly attended lectures might find thereby a useful field of activity in which to develop their gift of teaching. To be sure, this arrangement, as we have seen it in American schools, has a certain dark side, since the younger instructors particularly the older assistants and the younger professors, are so much occupied by the courses and practical exercises that there remains less time for their own scientific work than is the rule at our universities."

The thorough instruction of American students in text-book and recitation drill results also in a better preparation for the strictly clinical work. Müller says: "I was often astonished to see how well the American student was able to give an account of the patient assigned to him. At a clinical lecture by Professor Barker in Baltimore, at which I was present, a patient was presented who had entered the hospital the day before and had been assigned to a student. Professor Barker asked the student immediately for the diagnosis and the student replied that the case was one of Adams-Stokes disease and sustained his diagnosis in a completely satisfactory way. He knew that the symptom picture depended on a disturbance of the conducting bundle; he knew the animal experiments belonging to it; he had studied the curves which had been taken by the assistant physician on the same day from the cardiac impulse, the carotid and the jugular, and on the question of Professor Barker as to whether he had re-read the literature of this disease, he admitted that in consequence of lack of time, this had been possible for him only to a slight extent. It is evident that after this introduction the lecture could proceed on a quite different scale from that which would be possible in many German clinics." Müller found that his audience heard with understanding a lecture full of chemical details which would have speedily led to a marked diminution of the numbers of a German audience.

The architectural magnificence of some American medical schools and the munificence with which some of their departments are equipped are also described. The custom of employing skilled preparers of specimens, which economizes the time of the head of the department, is especially commended. The inconvenience of having much of the clinical instruction done at a long distance from the school is noticed and the example of Johns Hopkins with its own hospital and dispensary is commended.

The typical American hospital is described and the condition of the patients contrasted with that of Germany, which provides fully for its working classes through its insurance law, but makes rather inadequate provision for those who are able to pay moderate hospital fees. The plan of medical attendance is discussed and its advantages and disadvantages clearly pointed out. The training schools for nurses are noticed and the statement made that on the whole nurses in America receive a better training than in Germany. The work of the pathologic institutes of the hospitals and of the independent medical institutes is appreciatingly described.

The position of the American physician is rated as about the same as in Germany. Overproduction has led, in Müller's opinion, to a reduction in the income of physicians, which is often smaller than in Germany, although the cost of living is higher. Müller does not encourage dissatisfied or ambitious German physicians in the idea that they will find an easy road to a lucrative practice in America, since the public demand for educated physicians has produced a generation of American physicians as well educated as the German, against whom they are fully able to hold their own. The custom of country physicians of seeking postgraduate instruction in the cities and the postgraduate schools which have sprung up to meet this need are noticed, as also the employment of assistants by physicians in large cities; and the systemizing of records by card indices and other devices is described.

Our former visitor concludes: "Every American is possessed of the proud consciousness of belonging to a great nation which is called to a high destiny and which will some time cast all the other nations in the shade by its mighty development. This youthful enthusiasm, this joyful energy is indeed a powerful lever of progress. That slowness which many of our newspapers assert rules in Germany would be sought in vain in America. But these journals do us wrong when they speak of pessimism. The regard and the sincere friendship which the educated American feels toward the German people and especially toward German science, rests rather on the fact that he also esteems us a nation devoted to progress which is not willing to rest contentedly on what it has already accomplished.

"Travel begets modesty. It is well to convince oneself that in foreign lands and on the other side of the ocean men dwell who order their affairs as well and in some respects better than we. Self-contentment and overestimation of oneself flourish nowhere better than in the narrow circle of one's home."

Marriages

GEORGE RAYMOND PRAY, M.D., to Miss Zoe King Porter, both of Jackson, Mich., February 1.

CALEB W. G. ROHRER, M.D., to Miss Emma Marie Albrecht, both of Baltimore, January 29.

CLYDE R. MCKINNISS, M.D., Norristown, Pa., to Miss Virdie L. Eyman of Columbus, Ohio, January 25.

ERNEST LINWOOD CHENEY, M.D., Duluth, Minn., to Miss Grace Lillian Hinckley of Chicago, February 5.

LOUIS WARDLOW MILES, Ph.D., M.D., to Miss Katherine Wistar Stockton, both of Princeton, N. J., January 25.

W. EDGAR CUNNINGHAM, M.D., Richmond, Cal., to Miss Edith Cecilia Treanor of San José, Cal., January 24.

FRANK PARKINSON AULD, M.D., Shelbyville, Ill., to Miss Catherine Agness Price of Maplehurst, near Shelbyville, Ill., January 1.

Deaths

Andrew Boelus Brumbaugh, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1866; of Huntingdon, Pa.; a member of the American Medical Association; one of the founders of and lecturer on hygiene in Juniata College, Huntingdon; surgeon of the Pennsylvania and Huntingdon & Broad Top railroads; medical inspector for the Department of Health of Pennsylvania; a member of the American Association of Railway Surgeons, the pension examining board and the local board of health of Huntingdon; physician at the Orphans' Home for 27 years; a member of the State Editors' Association; was seized with appendicitis January 22, was operated on at the hospital of Dr. Price, in Philadelphia, two days later, and died from peritonitis January 27, aged 71.

William Randolph Steinmetz, M.D. Georgetown University School of Medicine, Washington, D. C., 1865; University of Pennsylvania, Department of Medicine, Philadelphia, 1868; who served as a private, general service, and hospital steward throughout the Civil War; was commissioned lieutenant and assistant surgeon in the Army in 1868; was promoted to captain in 1871; was retired on account of disability from injury in the line of duty in 1891; and made major and surgeon (retired) in 1904; died at his home in Baltimore, January 26, from disease of the stomach, after an illness of more than a year, aged 72.

Joseph Thomas, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1856; a member of the Medical Society of the State of Pennsylvania and Bucks County Medical Society; surgeon of the One Hundred and Eighteenth Pennsylvania Volunteer Infantry during the Civil War; president of the First National Bank of Quakertown; a member of the board of trustees of the State Hospital for the Insane, Norristown since 1889, and its president since 1899; once state senator; died at his home in Quakertown, January 28, from kidney disease, after an illness of two weeks, aged 77.

Andrew W. Riley, M.D. New York University Medical College, New York City, 1880; a member of the American Medical Association; one of the founders of the Omaha Medical Society; a prominent practitioner of Omaha; chief of staff of St. Joseph's Hospital, and lecturer on the practice of medicine in the John A. Creighton Medical College, Omaha; died at his home, January 21, from septicemia following erysipelas, contracted in line of duty, after an illness of one week, aged 49.

John Anderson Reed, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1866; a member of the American Medical Association; for more than 20 years a practitioner of Maysville Ky.; president of a bank in that city; chairman of the Mason County board of control of the Society of Equity; prominent as a physician and business man; died at the hospital of the University of Pennsylvania, Philadelphia, January 25, after an illness of two years, aged 64.

Leonidas H. Laidley, M.D. Jefferson Medical College, Philadelphia, 1868; Bellevue Hospital Medical College, New York City, 1872; a member of the Missouri State Medical Association and St. Louis Medical Society of Missouri; professor of gynecology and pelvic surgery in the Marion-Sims-Beaumont College of Medicine, St. Louis, and medical director of the Louisiana Purchase Exposition; died suddenly in St. Louis, February 5, from cerebral hemorrhage, aged 64.

David S. Hoffmann, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1874; a member of the American Medical Association; local surgeon at Lake City, Colo., of the Denver & Rio Grande Railroad; surgeon to the Lake City Hospital; register of the United States land office, and a member of the legislature in 1883; died in California, from disease of the stomach, January 29, aged 56.

Samuel F. Wentworth, M.D. Dartmouth Medical School, Hanover, N. H., 1862; one of the founders of the University of Minnesota, College of Medicine and Surgery, Minneapolis, and professor of dermatology at that institution; for several years surgeon of the Minneapolis & St. Louis Railroad; died at his home in Minneapolis, January 29, from bronchial pneumonia, aged 71.

John J. Green, M.D. Western Reserve University Medical College, Cleveland, 1870; a member of the Medical Society of the State of Pennsylvania and Allegheny County Medical Society; a veteran of the Civil War; who was struck by a street car January 24, breaking one rib and sustaining internal injuries; died at his home in East End, Pittsburg, January 27, aged 62.

Edward L. Elrod, M.D. University of Louisville (Ky.) Medical Department, 1888; a member of the American Medical

Association, and for nearly 20 years a practitioner of Henryville, Ind.; died January 28 in Jeffersonville, Ind., from pneumonia, following influenza, after an illness of two weeks, aged 45.

Robert H. McMullen, M.D. University of Nashville (Tenn.) Medical Department, 1852; a surgeon in the Confederate service during the Civil War; and for many years a practitioner of Huntsville, Ala.; died at his home in Rockport, Texas, Oct. 23, 1907, from senile debility, after an illness of two months, aged 78.

Duncan M. Brown, M.D. Medical College of Virginia, Richmond, 1884; a member of the Petersburg Medical Faculty, and for many years superintendent of public schools of Petersburg, Va.; died at his home in that city, January 27, from laryngeal tuberculosis, after a long illness, aged 51.

James Daugherty, M.D. University of Arkansas, Medical Department, Little Rock, 1897; a member of the State Medical Association of Texas and Caldwell County Medical Society; died at his home in Fentress, Texas, January 23, from cerebral hemorrhage, after a short illness, aged 38.

John Milton Walls, M.D. College of Physicians and Surgeons, Baltimore, 1896; a member of the State Medical Association of Texas and Morris County Medical Society; died at his home in Naples, Texas, January 25, from tuberculosis, after an illness of three months, aged 32.

Douglass Scovil Flewelling, M.D. New York University Medical College, New York City, 1892; a member of the American Medical Association, and medical inspector in the Somerville (Mass.) public schools; died at his home January 31 from general breakdown aged 46.

Salisbury Eugene O'Neill, M.D. Bellevue Hospital Medical College, New York City, 1873; a member of the Iowa State and Wapello County medical societies and coroner of Wapello County; died suddenly in his apartments, in Ottumwa, January 30, aged 71.

Frank P. Leckner, M.D. Michigan College of Medicine and Surgery, Detroit, 1893; a member of the Michigan State and Wayne County medical societies; died at his home in Detroit, January 30, from neurasthenia, after an illness of sixteen months, aged 49.

Washington West, M.D. Washington University, Medical Department, St. Louis, 1868; acting assistant surgeon, U. S. Army, from 1868 to 1870; was found dead in his buggy, in front of his home in Belleville Ill. from heart disease, January 29, aged 59.

Seth W. Fuller, M.D. Starling Medical College, Columbus, 1875; a member of the Ohio State Medical Association and Logan County Medical Society; for 66 years a practitioner of Bellefontaine, Ohio; died at his home in that city, January 30, aged 94.

Thomas P. Marston, M.D. Medical College of Virginia, Richmond, 1852; for several years assistant physician at the Eastern State Hospital, Williamsburg, Va.; died at his home near Lightfoot, Va., January 26, after an illness of several weeks, aged 73.

John Clark Johnston, M.D. Jefferson Medical College, Philadelphia, 1875; for 30 years a practitioner of Butte, Mont., and a member of the staff of St. James Hospital, died at that institution, January 29, from diabetes, after a prolonged illness, aged 58.

William R. McCreight, M.D. Medical Department of the Tulane University of Louisiana, New Orleans, 1858; a member of the Louisiana State and Morehouse Parish medical societies; parish coroner for 25 years; died at his home in Bastrop, January 25.

Hiram G. Wyckoff, M.D. Rush Medical College, Chicago, 1868; a veteran of the Civil War, and for many years a practitioner of California; died at his home in Palo Alto, January 28, from cerebral hemorrhage, after an illness of three days, aged 68.

Peter D. Moore (Years of Practice, W. Va.), 1882; a member of the West Virginia State Medical Association and Wood County Medical Society; died at his home in Parkersburg, January 27, from nephritis, after a long illness, aged 67.

Robert Wesley Southard, M.D. Hahnemann Medical College and Hospital of Chicago, 1878; of Perry, Okla.; died at the home of his daughter in Kansas City, Mo., Nov. 15, 1907, from uremia, after an illness of three years, aged 70.

Nelson Buell Kizer, M.D. New York University Medical College, New York City, 1871; a veteran of the Civil War; died at his home in Brooklyn, January 27, from the effects of an overdose of opium, aged 63.

Charles Sample Peeke, M.D. College of Physicians and Surgeons in the City of New York, 1890; died suddenly from heart disease, at his home in Rotterdam Junction, N. Y., January 27, from heart disease, aged 43.

Herbert N. Tanner, M.D. Albany (N. Y.) Medical College, 1895; of East Aurora, N. Y.; who had been ill since April last; died at the Buffalo General Hospital, January 25, after a surgical operation, aged 38.

Charles Ross Burner, M.D. Medical College of Indiana, Indianapolis, 1904; of South Bend, Ind.; died at the home of his father, near Rollison, Ill., January 25, after an illness of nearly three years, aged 30.

John Gretts McKenney, M.D. Atlanta (Ga.) Medical College, 1873; of Pine Bluff, Ark.; died at the home of his daughter in that city, Dec. 8, 1907, from erysipelas, after an illness of two weeks, aged 57.

Cyrus Theodore Kimmel, M.D. Washington University, Medical Department, St. Louis, 1860; died at his home in Kansas City, Mo., February 1, from senile debility, after an invalidism of a year, aged 75.

Henry Going M.D., M.R.C.S. Dublin, Ireland, 1842; for more than 60 years a practitioner of London, Ont., but more recently of Detroit, Mich., died January 27, at his old home in London, aged 92.

John Alexander Elliott, M.D. Eclectic Medical College of the City of New York, 1874; died at his home in Northumberland, Pa., from paralysis, January 28, after an illness of two months, aged 65.

F. F. McClure (Years of Practice, Ky.), 1894; for more than 40 years a practitioner of Symsonia, Ky.; died at his home, January 25, from pneumonia, after an illness of one week, aged 70.

William E. Sprague, M.D. Trinity Medical College, Toronto, Ont., 1884; of Belleville, Ont.; died suddenly from cerebral hemorrhage in the city clerk's office in that city, January 25, aged 62.

William Stratford, M.D. New York University Medical College, New York City, 1870; a member of the New York Academy of Medicine; died at his home in New York City, January 24.

William Franklin Hill, M.D. Northwestern University Medical School, Chicago, 1900; died at his home in Chelsea, Iowa, Dec. 8, 1907, from pneumonia, after a short illness, aged 47.

Arthur E. Springsted, M.D. Cleveland (Ohio) University of Medicine and Surgery, 1884; died from pneumonia at his home in Bluffton, Ind., January 27, after an illness of one week.

Charles C. Ogg, M.D. University College of Medicine, Richmond, Va., 1907; died at his home in Hillsboro, Va., from typhoid fever, January 23, after a short illness, aged 35.

Edward Jenner Kinloch, M.D. Medical College of the State of South Carolina, Charleston, 1892; died at his home in Summerville, S. C., after a long illness, January 31, aged 39.

Claude A. Morrison, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1902; of Burlington, N. J.; died at Fort Worth, Texas, January 26, from tuberculosis, aged 30.

Harry Z. O'Brien, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1903; resident physician at the Whitehaven Sanatorium, died Dec. 6, 1907, aged 29.

William Caspari, M.D. Kentucky School of Medicine, Louisville, 1859; died at his home in Mitchellsburg, Ky., January 23, from pneumonia, after a short illness, aged 80.

Frederick Whitcomb Currier, M.D. Beaumont Hospital Medical College, St. Louis, 1894; died at his home in Springfield, Ill., Dec. 2, 1907, from pneumonia, aged 39.

Charles A. Wilson, M.D. Cleveland University of Medicine and Surgery, 1883; died at his home in San Antonio, Texas, January 28, after a lingering illness, aged 49.

L. Brown Means, M.D. Jefferson Medical College, Philadelphia, 1883; of Wexford, Pa.; died suddenly at the home of his brother in Sewickley, Pa., January 29.

Octavius H. E. Clark, M.D. Magill University Medical Faculty, Montreal, 1870; formerly of Chicago; is said to have died recently at Los Angeles, Cal., aged 61.

Henry David Fanning, M.D. University of California, Medical Department, San Francisco, 1902; of San Francisco; died in Tucson, Ariz., January 28, aged 29.

Frank Heyden Moss, M.D. Toronto (Ont.) Medical Faculty, 1892; of Palo Alto, Cal., was found dead on the railroad track near Morgan Hill, Cal., February 5.

Charles Crawford Hindman, M.D. Jefferson Medical College, Philadelphia, 1876; died at his home in Dubois, Pa., January 24, from influenza, aged 54.

Robert D'Unger, M.D. Eclectic Medical College of Philadelphia, 1859; died at his home in Chicago, January 30, aged 83.

Deaths Abroad.

H. Snellen, M.D., formerly professor of ophthalmology and director of the eye clinic at Utrecht; one of the leading ophthalmologists of his day; died January 18, aged 73. His test-types and other devices for testing vision are in almost universal use, and numerous operations for ectropion, tenotomy, etc., were invented or perfected by him. It was in his honor that the International Congress of Ophthalmology in 1899 was held at Utrecht. Nine years ago he resigned his chair and directorship in favor of his son, H. Snellen, Jr.

Sir Thomas McCall Anderson, M.D. Glasgow (honor), 1858; regius professor of medicine in the University of Glasgow; formerly lecturer on the practice of medicine in Anderson's College, Glasgow; professor of clinical medicine in Glasgow University from 1874 to 1900, then professor of the practice of medicine; physician to the Glasgow West Infirmary; formerly dean of the medical faculty of the University of Glasgow, and some-time president of that university; died suddenly from heart disease, January 25, aged 72.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

THE PROFIT-SHARING PLAN.

How Some Unthinking Physicians Are Suborned to Push Nostrums.

In the development of the nostrum business, all kinds of advertising devices and methods of attracting the patronage of physicians have been utilized by enterprising, though often somewhat impertinent, advertising managers. Souvenirs, useful and decorative articles of all sorts, blotters *ad lib.*, calendars *ad nauseam*, have all been employed in turn. The facsimile letter, the follow-up system, the personal call of the friendly and learned detail man, even the establishment, publication and distribution of "medical journals" which possess no paid subscription list—all these have been employed, and as fast as a new advertising scheme has been developed it has found a host of imitators.

It has remained for recent years, however, to develop the choicest advertising scheme of the entire nostrum business, namely, the "profit-sharing" plan, by which "stock" is sold to physicians or is handed out to them as a reward for prescribing the wares of the company. In some cases the "stock" has been sold under the plea of "professional cooperation" or "giving the doctor the profit instead of the druggist," etc. This plan, beside holding out the always alluring prospect of "dividends" and "profits on investments," possesses a practical advantage, from the manufacturer's standpoint in that each physician who invests is converted into a drummer for the house.

These reflections are suggested by the following notice which is appearing in the "Roster of the Philadelphia County Medical Society":

SHARE-HOLDING IN NOSTRUM COMPANIES BY PHYSICIANS TO STOP.

"Section 1 of Article 1 of the by-laws of the Philadelphia County Medical Society provides that any physician who shall procure a patent for a remedy or who shall give a certificate in favor of a patented or proprietary remedy or patent instrument, or who shall enter into an agreement with an apothecary to receive pecuniary compensation on patronage for sending his prescriptions to that apothecary, shall be disqualified for becoming or remaining a member.

"The holding of shares of stock in a company, to make or deal in patent or secret remedies, is, therefore, incompatible with membership in the Philadelphia County Medical Society. This notice shall be printed in three successive issues of the weekly roster.

"The foregoing action, adopted at the annual meeting on January 15, means expulsion of offenders from the county society, the state society and the American Medical Association after expiration of the three notices mentioned."

THE GIRARD COMPANY.

One of the most brilliant examples of this method of doing business is that of the Girard Chemical Company, a firm located in Philadelphia. This company sent to physicians a pamphlet called "The Physician's Record." This pamphlet contained a liberal supply of blanks, each containing the names of the preparations of the company, with a space opposite each name for each day of the month. The physician is supposed each day to record on this blank the nostrums he prescribes, and to return it monthly to the office of the company. He is then credited with 25 per cent. of the wholesale price of the remedies prescribed, redeemable in the stock of the company. The circular says: "The plan is an equitable one. The stock allotted will be in proportion to the interest [in the company, of course] manifested by each individual physician." Translated into ordinary English, this means that the amount of stock which the physician gets is exactly in proportion to the extent to which he is willing secretly to use his patients for his own profit.

A charming variation introduced by this company is a postal card on which is printed a glowing endorsement of the nostrums manufactured by the company. Under the endorsement is the following: "You may send me a full trial box and samples without cost to me," with a space for the signature of the physician to whom the card is sent. Of course, the doctor, in order to get a free sample, has to sign an endorsement and recommendation of preparations which he has probably never seen, but such a trifle is hardly worth mentioning. The use to which the endorsement will be put later can be imagined.

Among the preparations manufactured by this company and listed in their literature are the following:

Nuxpeptyn.	Girard Laxative Pills.
Nuxpeptyn Aurin.	Creta-Methyl.
Nuclo Ferri-Mangan.	Lignol.
Cuca Vin.	Lignol Capsules.
Algicide.	Lignol Ointment.
Girard Uterine Tonic.	Lignol Suppositories.
Col-Bry-Lith.	Lignol Soap.

The physician who accepts this kind offer to act as a drummer for soap at so much a cake, and whose commission depends on the amount of soap he is able to induce his confiding patients to purchase, takes his profit out in the form of stock of the company that makes the soap. That is, he does if he can sell enough soap to secure a stock certificate. Physicians also advise their patients to eat certain kinds of food and to wear certain articles of clothing, but we have yet to learn of a grocery store offering a physician a commission on the grocery bills of the various families, or of a clothing store offering a physician an interest in the business if he will recommend a certain kind of wearing apparel. This teaches us that drug firms are much more enterprising than grocers or clothiers.

The following letter from this company to its "stockholders" is certainly calculated to cause the heart of a physician to swell with pride, that such a communication should be addressed to any member of our profession by a nostrum manufacturer. Notice the way in which the Girard Company cracks the whip over the heads of the physicians who have accepted this offer of stock. Also notice the veiled threat in the fourth paragraph, which is held over the heads of the luckless "subscribers" who are not working with sufficient enthusiasm "to further the interests of the company."

Dear Doctor and Stockholder:—Enclosed herewith we hand you statement of your special certificate which is being paid for by dividend credits.

We think by this time you are thoroughly familiar with the products manufactured by our house and know their efficacy. We are simply going to put one question to you: Can you say conscientiously that during the past six months you have earned for the company that which the company is crediting you with in dividends? If not, we can only say that we know of no better time for you to start than the present.

Certainly it is not fair on your part if you are not using the preparations to stand by silently and permit the company to credit your account with dividends earned by the efforts of other stockholders.

We do know that some physicians who hold these certificates are not doing what they can to further the interests of the company, and we shall before long inaugurate a system and put it into operation which will enable us to ascertain to a very great extent

which of our stockholders are working in cooperation with us and which are not.

We enclose herewith literature bearing on Creta-Methyl and a report of the use of Col-Bry-Lith in conjunction therewith.

Yours truly, THE GIRARD COMPANY.

THE HUFF SYSTEM.

One of the worst features of such methods is that the little fish are led to envy and emulate the big fish. An illustration has recently occurred. An individual who advertises himself as the "sole owner" of the "Huff System" recently sent a circular letter to a number of physicians, offering them an opportunity to participate in what the promoter enthusiastically characterized as "the greatest money-maker for all concerned that was ever launched." How characteristic is the literary style of the nostrum promoter! The writer says further:

"I am in possession of two most valuable formulas which alone are not only the best in their class, but also profitable to say the least, hence to combine all under one head it is suffice to say would make a business to be envied by all."

Doubtless the precision of the gentleman's financial ideas is on a par with the clarity of his diction. The next paragraph is worthy of the ideal "patent medicine" promoter:

"My Diphtheria and Croup Remedy has been tested for the past twenty years, and has never been known to fail in effecting a cure, and for all throat troubles I do not believe their is a remedy made that will equal it, besides it shows a profit of almost 200 %."

This is certainly an interesting scientific announcement. That the owner is not lacking in some of the necessary qualifications for a career in high finance is shown by the following:

"If we get one-fourth of the physicians in the United States to buy a single share and each and every one to prescribe or recommend Huff's Beef, Iron and Wine, Huff's Diphtheria and Croup Remedy, it will not only mean the greatest working force on earth, but also the greatest profit bearer that ever existed."

Evidently the day of diphtheria antitoxin therapy is past; Huff's Diphtheria and Croup Remedy will doubtless inherit the earth.

And it is to promote the use of such stuff as this that physicians are asked to invest. It may be that there are physicians who will invest in such enterprises. Ages ago the trusting and simple-minded farmer allowed the wily confidence man to sell him beautiful gold bricks. Owing to increasing enlightenment in the rural districts, however, this species has become nearly as rare as the dodo.

Action Against Osteopathic Amendment.

The Medical Society of the County of New York, at a meeting held January 31, adopted resolutions against the adoption of the Assembly Bill 268, an act amending the medical law of the state. At its last session, the state legislature enacted a law placing a uniform requirement on all who desired to practice medicine in the state. The law provided that all osteopaths practicing at the time of the passage of the law, who were qualified according to osteopathic standards, should be exempt from the requirements of the law. The amendment now proposed extends this exemption to all other "osteopathic physicians" regardless of their qualifications. If this amendment were adopted, it would confer on a large number of individuals all the rights and privileges of licensed practitioners simply because they happen to reside in the state of New York and have been "practicing" osteopathy at the time of the passage of the bill. The county society also holds that such action is an unjust discrimination against graduates of medical colleges who were required to pass the regents' examination before receiving a license to practice. It is evident that the amendment is class legislation, since it seeks to confer a special privilege on a certain class, which privilege is denied to others.

Tuberculosis Sanatoriums Established in Illinois.

The Illinois legislature has adopted the bill proposed by Senator Glackin of Cook County, enabling cities and villages to establish and maintain public tuberculosis sanatoriums. This bill passed the senate on January 1 and the house on January 28. It provides that when one hundred legal voters of any city or village shall present a petition to the city council or the board of trustees, asking for a tax levy for the establishment and maintenance of a public tuberculosis sanatorium, the question shall be submitted to the voters at the next regular annual election and, if the voters approve of the plan, the city council shall establish and maintain a public tuberculosis sanatorium under the direction of a board of three directors, one of whom shall be from the local board of health, and the other two appointed from the citizens at large. The sanatoriums established under this act are to be free and for the benefit of the inhabitants of the city or village establishing the institution. All reputable physicians are to have equal privileges in treating patients.

Medical Defense in Wisconsin.

The council of the State Medical Society of Wisconsin considered the question of medical defense at its annual meeting on January 2. The committee appointed to prepare a plan of operation presented its report, showing that forty county societies had acted on the question which was submitted to them, thirty-five voting in favor of the plan and five against it. The council unanimously adopted the recommendations of the committee, which provide that on and after Jan. 1, 1908, it shall be the duty of the executive committee to investigate all claims of malpractice against members, and if, in its judgment, the case is one which should be defended, to forward all papers connected with the case to the attorney of the society. Judgments, claims or statements against any member are not included in the plan. Each member of the state society is to be assessed $1 a year for this purpose. Only resident members in good standing whose dues for the year are paid in advance are to be entitled to this protection. The success of this method and the general satisfaction of the members with it in New York, Pennsylvania, Illinois and other states is sufficient assurance that the State Medical Society of Wisconsin will find this to be one of the most effective methods of building up and maintaining an efficient organization, as well as of securing the active cooperation and loyalty of the members, that could be devised. Not only does this cooperative plan give the individual physician what he sorely needs, namely, competent, disinterested advice and guidance in time of trouble, but it has also been found without exception that the adoption of this plan by medical societies has resulted in a marked diminution of unnecessary and unjustifiable lawsuits and of the practical elimination of the shyster lawyer from this line of business. It is inevitable that in Wisconsin, as in every other state in which a new plan has been introduced, there will be some opposition until the matter is understood and until the benefits are clearly seen. Having once been demonstrated, there is no doubt that this additional membership privilege will soon be highly prized by all members.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fifth Month.

FOURTH WEEKLY MEETING.

Fractures.

Varieties.

(a) Describe stellate, comminuted, multiple, punctured, gunshot, transverse and oblique fractures.

(b) Complete, incomplete, greenstick, depressed, fissured fracture.

(c) As to displacement of fragments, depressed, with overriding, transverse, rotary, angular and longitudinal displacement. Impacted fracture.

(d) Simple, compound and complicated fracture.

(e) Differentiate traumatic and pathologic fractures.

Etiology: Predisposing and exciting causes. Mechanism of each.

Symptoms: Immediate symptoms, local and general. Mediate symptoms, local and general.
Diagnosis: Diagnose a fracture, describing methods of examination.
Treatment: Principles in treatment.

Society Proceedings

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

One Hundred and Second Annual Meeting, held at Albany, Jan. 27-30, 1908.

(*Continued from page 477.*)

The Consequences of the Pathologic Changes in Appendiceal Peritonitis.

DR. E. M. STANTON, Schenectady, read this paper. His statements were based on a study of the condition of the peritoneum as observed at operation in 162 cases of acute and 331 interval and chronic cases of appendicitis operated on at St. Mary's Hospital, and on Dr. A. J. Ochsner's service at the Augustana Hospital, Chicago, together with 40 cases of appendicitis operated on at Ellis Hospital, Schenectady. As a control series he made use of previously reported studies of the operative findings in 485 cases operated on at the Albany Hospital during the six years previous to 1905, making in all 1,018 cases studied relative to the pathologic course of the intraperitoneal changes in this disease. Tracing the sequence of changes from a purely pathologic standpoint, they found three stages of the disease corresponding in clinical experience to periods showing wide differences in operative mortality. In conclusion he emphasized that fact that the distribution of an intraperitoneal infection is in most part dependent on purely mechanical factors and that in the absence of peristalsis such as is produced by giving food or cathartics by the mouth, the tendency of a localized peritonitis even of appendiceal origin to spread beyond its original boundaries was very slight indeed; while when a condition of peritoneal rest was once obtained, the vast majority of the cases of extensive and severe peritonitis showed a rapid localization of the inflammatory process which either subsided entirely or ends in the formation of a localized abscess.

DISCUSSION.

DR. A. J. OCHSNER, Chicago, considered Dr. Stanton's paper so accurate and complete that it would stand as a basis for professional opinion on the pathology of acute appendicitis. Some eight years ago he said he had brought out the proposition that the distribution of the infection and consequent mortality in acute appendicitis depends not so much on the disease itself as on the disturbance caused by the peristalsis of the small intestines. Where the infection had spread beyond the appendix itself it is possible to limit the distribution and cause it to be localized, provided the action of the intestine could be inhibited. He advised keeping the stomach absolutely empty. If regurgitation occurred from the intestines the stomach should be washed out. He found the number of exacerbations somewhat dependent on the number of examinations. The claim to superiority of this form of treatment in cases of acute perforating or gangrenous appendicitis has been conclusively demonstrated.

DR. WILLIS G. MACDONALD, Albany, did not agree with the opinions of the two who had just spoken.

DR. JOHN C. MUNRO, Boston, commended the paper and said it was placed on a solid and scientific basis. He had used the treatment advised by Dr. Ochsner.

DR. SKINNER believed in the non-operative treatment of appendicitis.

DR. LAKE, Towanda, recalled his experience of thirty years ago, when appendicitis was unknown and yet the mortality low.

DR. L. DUNCAN BULKLEY said that fifty years ago he had had an attack of what was then known as typhlitis, but which he now knew was appendicitis, and under opium treatment for six weeks the infection was localized and at last the abscess ruptured into the bladder.

DR. VANDER VEER, Albany, said that Dr. Alonzo Clark had said practically the same thing as Dr. Ochsner on the very same spot forty-two years ago.

DR. STRANAHAN, Rome, had treated 120 cases, with no mortality, and had used Dr. Ochsner's treatment.

Tuberculosis in Children.

DR. CHARLES G. KERLEY, New York, said that the two features regarding tuberculosis in children which impressed him most strongly are the marked resistance which children show to tubercular infection, particularly after the fourth year, and the readily traceable source of the infection in many cases. His experience has shown that the intimate association of the child with a tuberculous adult is most frequently the source of infection. He related a number of instances in which the source of infection was difficult to find, but in which it was finally traced to association with a tuberculous adult. The recent experiments of Dr. Harlow Brooks with monkeys in the New York Zoological Garden were related as demonstrating that infection occurs much more certainly where dust containing the dry secretions of previous tuberculous animals had been allowed to collect and remain in the cages? Excepting those animals which had been directly exposed to the dried or fresh secretions of the infected animals, not one case of tuberculosis has developed. All new animals are now quarantined until they are shown to be free from tuberculosis and the result has been to reduce the mortality among the primates from over 50 per cent to zero, so that as a mortality factor tuberculosis has ceased to exist in these zoological gardens. These experiments bear directly on tuberculosis in children because the type of disease seen in monkeys and even the organism present are apparently identical with the disease in children. It has been proven beyond a doubt that in these animals the mode of infection is through the respiratory tract. That this mode of infection is by far the most frequent is further shown by the location and character of the lesion as proven by autopsy records. In 34 out of 35 of his own autopsies, bronchial gland and lung involvement showed signs that they were the original site of infection, and according to Northrup the intestine is primarily involved in less than 2 per cent of the cases.

While infection from milk is possible, Dr. Kerley is of the opinion that it is certainly very infrequent. In his experience where intestinal lesions had been found they were in marked cases of generalized tuberculosis, and they were doubtless due to the swallowing of sputum from advanced pulmonary processes. He said that in Greenland and in Japan, where cows' milk is not fed to infants, tuberculosis is much more prevalent than in countries where cows' milk is fed to children. He made no objection to boiling all market milk, but wished to get at the exact truth and lay it before physicians, legislators and educators. He is confident that milk adds but little to the mortality from tuberculosis. The disease among cattle should be stamped out, but more stress should be laid on the danger from the inhalation of infected dust instead of putting too much on infection through milk. He recommended education of the public as to the nature of the disease, and legislation to force the infected to observe reasonable sanitary laws. He would have all physicians report all cases.

Can Tuberculosis be Eliminated from Cattle?

PROF. VERANUS A. MOORE, Ithaca, N. Y., said that New York had been unfortunate until very recently in that there was no law to prevent the entrance of infected cattle into the state, and in having, at times, in official capacity those who belittled the significance of bovine tuberculosis, thereby discouraging farmers from adopting the most approved methods of protecting their cattle. The demand for fresh milk has led farmers to sell their dry and buy fresh cows, thus tending to spread the disease. Tuberculosis in cattle as in man is a very insidious disease, its period of incubation being uncertain and its course either long or short. Its positive diagnosis in most living animals is impossible without the use of the tuberculin test. The methods for its elimination are based on the recognized principles of segregating the diseased individuals and

protecting the uninfected. Infected animals can be used in three ways: Total destruction, excepting for fertilizing purposes; slaughter for beef under proper inspection; and the separation of infected individuals that appear to be well, and keeping them for breeding purposes. Tuberculin does not give a reaction during the incubation period, in many if not all cases where the disease is arrested, and possibly when it is very far advanced. This means that the records of infected herds do not point out all the animals that are infected. It is not known how long the disease may lie dormant, but cases are known where lesions have sprung into activity after three and one-half years, and also where an apparently healed, calcified tubercle contained living virulent tubercle bacilli at the end of three years. It has also been shown that a considerable number of animals that react to tuberculin do not respond at subsequent tests. The bovine variety of tubercle bacillus is much more virulent for most animals than is the human form. The perplexing problems met with in dealing with this question are the getting of trained and competent men to use the tuberculin, the equitable and just disposal of infected animals, the teaching of owners of the disastrous effects of the disease on the remainder of the herd. He suggested the following code: Protect the healthy herd by keeping all infected animals from entering them. Promptly eliminate all animals exhibiting tuberculosis of the udders or evidence of generalized tuberculosis. As quickly as possible test all animals in suspicious herds and segregate the reacting ones. Retest at frequent intervals. Dispose of reacting animals as suggested above. Never return to the sound herd animals that have reacted to the tuberculin test, although they cease to react and appear perfectly well. Stop the practice of selling dry cows and buying fresh ones in order to maintain a milking herd. Cattle should not be purchased for dairy purposes unless they pass the tuberculin test. All new animals should be watched and tested. The state should provide ample means to assist in a systematic manner those who are willing to bear their share in eliminating this disease from their cattle.

DISCUSSION.

DR. DELANCEY ROCHESTER, Buffalo, asked whether any experiments had been made as to the possibility of the hay bacillus, which resembles the bacillus of tuberculosis, being a source of tuberculosis in cattle.

DR. TOTMAN, Syracuse, told of one of the herds supplying Syracuse, where, out of the total of 28 cows, 25 were found to have tuberculosis. The farmer, after disposing of these, bought ten other cows and produced more milk than he had before from the 28. He thought that if the farmer could be made to realize that it is a losing game to keep tuberculous cows, it would do much to secure his cooperation in dealing with the problem.

DR. HUBERT SCHOONMAKER, Clifton Springs, asked how often a herd, say of 100 cattle, should be tested for tuberculosis in order to be reasonably safe.

DR. FAYETTE H. PECK, Utica, asked what disposition of the milk from segregated cows could be made. This was important because, if, as had been stated, 40 per cent. of the cattle in the state had tuberculosis, if we did away with that percentage of cattle we would be confronted with a milk famine. He did not argue for the use of infected milk, but only thought we should consider the serious economic question involved.

DR. MOAK was of the opinion that infection takes place quite frequently through the intestinal tract, and related personal experiences which seemed to confirm that belief.

Milk Production; Old and New.

DR. L. EMMET HOLT described the methods formerly in vogue in New York City. At present the milk shipped to the city from long distances is of the best quality; often that produced near by is not sufficiently well iced, and therefore is more susceptible to bacteria than that produced further away. The question of getting pure milk into New York seemed to be only a question of price. It was shown that at present it costs 14 cents a quart to produce the purest milk. It is possible to have a milk that is practically sterile, but whether that is desirable is still an open question. Dr. Holt dwelt at length on the necessity of keeping the cows perfectly groomed if we are to have clean milk. No doubt the decreased death rate of the city among children under 5 years of age is due to improved methods in producing and handling milk. He does not think it desirable to make pasteurization a requirement, for the reason that pasteurized milk would not sour and yet it might be very foul. It would afford dealers an opportunity to dispose of milk that otherwise would be unsalable.

(To be continued.)

Medicolegal

Stricture and "Local Disease."

The Supreme Court of Wisconsin says that in the case of Cady vs. Fidelity and Casualty Company counsel requested the trial court to instruct the jury that if Mr. Cady had an organic stricture at the time he took out the policy of insurance, or at any time during one year prior thereto, he had a local disease within the meaning of the policy. The court gave the instruction coupled with an explanation and instructions in the general charge to the effect that if Mr. Cady had an organic stricture it did not constitute a local disease within the meaning of the policy unless the affection was so far developed and had become so serious as to have some bearing on his general health.

The Supreme Court considers that the meaning of the term "local disease" as used in the policy was correctly given to the jury. The parties to the contract must have intended to use the term "local disease" so as not to bind the assured unreasonably. Absurd results are always regarded as not within the contemplation of parties to a contract at the time of reducing the same to writing where their words in any reasonable view will admit of a construction making the agreement reasonable. It is considered that an affection, even though curable only by medical or surgical treatment, but nevertheless readily remediable and so not necessarily tending to shorten life, before it has become so far developed as to have some bearing in præsenti (present time), on the general health, is not a disease as one would ordinarily understand that term, and that to go further and give such term, as urged, in the contract in question, its technical meaning would be going too far. Parties are supposed, generally speaking, in making their contracts to use words in their common, ordinary sense, and that assumption should prevail in the absence of some reasonably clear indication to the contrary. It is believed by the court that the conclusion reached is in harmony with the decided cases notwithstanding there has been no adjudication of the matter, so far as the court was advised on facts the same or very similar to those here involved.

Drunkenness and Insanity Induced by Intoxication as Defenses to Crime.

The Supreme Court of Appeals of West Virginia holds, in the case of State vs. Kidwell, that a person who, being sane and responsible for his acts, voluntarily becomes intoxicated, with or without a preconceived design to commit murder or other crime, and while intoxicated, though it be to such a degree as to render him wholly oblivious of his acts or conduct, commits a homicide, or does any other act which, if done by a person capable of distinguishing between right and wrong, is criminal, if not excused or justified in some way, is held responsible by the law for his act, notwithstanding his mental condition at the time.

Insanity, though superinduced by long continued indulgence in intemperance or intoxication and known as delirium tremens or *mania à potu*, renders the person so afflicted irresponsible for his acts, if it be of such character as to deprive him of his power to distinguish between right and wrong, whether he be under the influence of liquor at the time of the commission of the act or not; but, to do so, his affliction must be settled or fixed insanity, not a mere fit of drunkenness. A person not previously laboring under such disease or affliction, who voluntarily becomes intoxicated to such an extent and for such a period of time as to cause unconsciousness of his acts and

affliction with delusions and hallucinations, is not irresponsible under the law for the acts done by him while in such mental condition.

The accused on the trial for an indictment for murder is not entitled to an instruction propounding the inquiry as to whether he was insane at the time of the killing, if the evidence adduced by him to sustain such defense lacks tendency to show mental unsoundness antedating the drunken spree, in the course of which the killing was done, and also to show that intoxication had ceased, and settled insanity ensued, as a result of habitual indulgence in intoxication.

City Upheld in Requiring Traveling Physicians to Pay Fifty Dollars a Year License Tax.

The Supreme Court of Iowa upholds, in the case of the City of Fairfield vs. Shallenberger, a city ordinance requiring traveling physicians engaging for pay or reward in that occupation or profession in the city to pay a license of $50 per year. Section 700 of the Iowa Code provides that cities and towns shall have power "to regulate, license and tax . . . itinerant doctors, itinerant physicians and surgeons," while Section 2581 thereof provides that the state board of medical examiners may issue to itinerant physicians a license to practice within the state. But the court does not think that Section 2581 repeals or limits the power of Section 700 by implication or by any express language used therein.

The power to license conferred on cities and towns by Section 700, the court says, is in reality a grant of power to enact police regulations for the general welfare of the particular community. And it is on this principle that physicians, other professional men, and skilled workmen generally may be required to procure a license which certifies to their fitness to pursue their respective callings in which professional skill is most necessary, and in which the ignorance of the practitioner is likely to be productive of harm to the public and to individuals having business relations with them. What the state may do in its sovereign capacity it may authorize its creatures to do, and the court thinks there can be no doubt of its power to delegate to municipal corporations the enactment of such local police regulations as shall be deemed reasonably necessary for the protection of the public in the particular localities. That the legislature may, in the exercise of its police power, regulate a state license for the practice of medicine, and at the same time authorize municipalities to require a license for the practice thereof within their boundaries, the court does not doubt. It would, in effect, be nothing more than the imposition of an increased charge for the privilege, and the court was cited to no authority which holds this to be beyond the power of the state. If the state may thus act, it follows that no inconsistency necessarily exists between the two acts under consideration. In one the power is given municipalities to license within their confines, and in the other a license for the whole state is issued, but by implication it is not effective where a local license is required until such license has been obtained. That a license may be required from the same person for the same business by the state and by its municipalities is a rule of general application.

The court does not consider that the ordinance violates Section 1 of the fourteenth amendment to the Constitution of the United States, which provides that "no state shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States, . . . nor deny to any person the equal protection of the laws."

Nor does the court think the ordinance open to the charge that it discriminates against a non-resident of the city or of the state. It requires a license only from traveling physicians, it is true, but it nowhere confines its operation to traveling physicians who are non-residents of the city of Fairfield. If a resident of said city was a traveling physician and sought to practice his profession therein, he would be as surely subject to the ordinance as was the defendant. The ordinance is of uniform operation because it embraces all of the class designated therein.

Neither was the license required unreasonable. Fifty dollars per year for the privilege of practicing medicine is not in and of itself unreasonable or exorbitant.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

February 1.

1 Classification of Cases of Appendicitis. J. J. McGrath, New York.
2 Psychologic Study of Hamlet. J. W. Wainwright, New York.
3 *Cutaneous Tuberculin Vaccination in the Diagnosis of Tuberculosis. W. J. Butler, Chicago.
4 After-Care of Tuberculosis with Reference to Employment. H. R. M. Landis, Philadelphia.
5 Treatment of Cancer. A. G. Henry, Cortland, N. Y.
6 Teaching of Physical Diagnosis. O. L. Mulot, Brooklyn, N. Y.
7 Congenital Irideremia with Cataract. E. S. Thomson, New York.

3. Tuberculin Vaccination.—Butler describes the technic of tuberculin cutaneous vaccination and the reaction, and concludes that in a child positive reaction is undoubtedly diagnostic of tuberculosis. Failure of reaction is of little antidiagnostic significance in the terminal days of tuberculous infection. A negative result may occur in obsolete tuberculous foci. It fails in cachectic children. He considers it a valuable diagnostic aid in children, though adults may present the reaction even when healthy.

Boston Medical and Surgical Journal.

January 30.

8 *An Insidious Type of Non-tuberculous Pyelonephritis. A. L. Chute, Boston.
9 *Adenoids and Tonsils. H. G. Langworthy, Dubuque, Iowa.
10 *Division of the Posterior Spinal Roots for Amputation Neuralgia. P. C. Knapp, Boston.
11 Reform of Expert Medical Testimony. L. C. Southard.
12 Spina Bifida. B. B. Cates, Knoxville, Tenn.

8. Non-Tuberculous Pyelonephritis.—Chute describes two unusual cases which leads him to conclude that there are certain forms of pyelonephritis that simulate bladder infection very closely in that those signs most relied on in the diagnosis of kidney infection are absent in the early stage, and occur only late in the disease at a time when we are powerless to stay its course. Cystoscopy is the only means by which these forms of pyelonephritis can be recognized while treatment is still of avail. In cases, he says, that are apparently chronic cystitis but persist without evident cause, the physician should consider that the burden of proving that the condition is not renal rests on him. Early drainage is probably the most efficient method of treatment.

9. Adenoids and the Status Lymphaticus.—Langworthy discusses adenoids and tonsils, and in relation to the question of operation takes up the subject of the status lymphaticus. He holds that a positive diagnosis during life is, to say the best, extremely difficult, if not impossible; and that there seems no reason to suppose that cases of simple adenoid and tonsillar trouble are especially suggestive of the status lymphaticus. It is only when they are associated with other stigmata, e. g., absence of pubic hair in an adult, frequent attacks of syncope, dyspnea and laryngismus stridulus, that the possibility of the lymphatic constitution should be considered. He discusses the methods of removing the tonsils which should be complete and should include the capsule.

10. Amputation Neuralgia.—Knapp considers the development of severe neuralgia of the stump after amputation and the suggested treatment of division of the posterior spinal roots. He reports two cases, in one of which death ensued on the table, and in the other the operation not only failed to give permanent relief to the patient, but was undoubtedly the cause of some change in the cord resulting in paraplegia.

New York Medical Journal.

February 1.

13 *Carcinomatosis of the Meninges. D. J. McCarthy and M. K. Meyers, Philadelphia.
14 *Anesthesia by Nitrous Oxid, Nitrous Oxid and Oxygen, Nitrous Oxid and Ether, Chloroform and Oxygen, and Ether Administered by Rectum. P. LeBreton, Buffalo, N. Y.
15 Spontaneous Rupture of the Heart. T. Klingmann, Ann Arbor, Mich.
16 *Noma. R. C. Rosenberger, Philadelphia.
17 Notes on European Surgical Clinics. O. C. Smith, Hartford, Conn.
18 *Milk and Education. G. W. Goler, Rochester, N. Y.
19 *Tuberculosis Among Medical Students and Its Possible Prevention. I. J. Wile, New York

13. **Carcinomatosis of Meninges.**—McCarthy and Meyers report a case of multiple secondary carcinomatosis of the nervous system limited to the meninges, a condition of which only eleven cases could be discovered after a careful search of the literature. The case is of further interest, owing to a mistake in the clinical diagnosis of cerebral syphilis, notwithstanding the great care taken in arriving at a diagnosis. The patient was a colored woman of 38, and the predominating symptoms were as follows: There was pain in the lower extremities on admission to hospital, and the knee jerks were absent. On the following day the left knee jerk was present. On admission there was pain in the lower extremities, with headaches dating from three months previous. One month after admission, and nine days previous to death of patient, she first began to show cerebral symptoms. These began with affection of the sixth nerve on the left side, and after a few days were followed by an affection of both third nerves. On the following day the seventh nerve on the right side became affected, with an almost similar affection of the fifth nerve on the left side. On the day before her death the difficulty of swallowing indicated an involvement of the ninth or tenth nerve. One week previous to her death there was a progressively developing stupor. Such a group of symptoms, with their progress, irregular distribution and development, indicated multiple lesions affecting first the spinal cord and later the brain. For this reason and for no other was the diagnosis of syphilis of the nervous system made. In a patient presenting these symptoms with an evident carcinoma elsewhere in the body, or with a history or evidence of its removal, the diagnosis of multiple secondary carcinomatosis of the nervous system could be made. A frank, active tuberculosis elsewhere in the body would lead to the diagnosis of tuberculosis of the nervous system. The history of syphilis, or distinct evidence of syphilis elsewhere in the body, would lead to a diagnosis of cerebrospinal syphilis. The history of the case with the rapid development of cerebral symptoms such a short time before death would practically exclude multiple sclerosis. Autopsy in the present case disclosed on gross examination that the entire brain was covered with minute white areas varying in size from a pin point to a pin head, along the course of the blood vessels. The same condition was present over the spinal meninges. At first sight this gave the impression of a syphilitic meningitis, but more careful examination and the finding of the tumor masses in the other viscera led to a correct diagnosis. The microscopic examination presented a typical picture of carcinoma. The involvement of the cortex was unquestionably an extension from the meninges. Involvement of the spinal roots is not an uncommon condition, but involvement of the spinal ganglia is relatively rare.

14. **Anesthesia.**—LeBreton discusses the administration of nitrous oxid alone, of nitrous oxid and oxygen for prolonged anesthesia, of nitrous oxid given continuously with the addition of small quantities of ether, or used to precede straight ether (ethyl chlorid may be substituted in certain cases), of chloroform and oxygen, and finally rectal anesthesia by ether. The technic of the latter is described and cases are reported.

16. **Noma.**—Rosenberger's studies simply confirm the observations made by the majority of investigators, that no specific organism has yet been isolated in this condition. He prefers to refer to the diphtheria-like organism isolated by him as a pseudodiphtheria bacillus rather than to call it a true diphtheria bacillus. The reasons for this are that on agar the growth was exceptionally abundant and lacked the typical cream-colored colonies so typical of the true diphtheria bacillus. It also was wanting in its toxic properties, as well as the subcultures on various media.

18. **Milk.**—Goler thinks that the education and training of those entrusted with the production, transportation and distribution of milk should be made the subject of the state's greatest care. It is of importance not merely on account of the relation between infantile mortality and unwholesome milk, but also because of the danger of disease in the year of the child's formative state, when the energies of the body should be used for growth and not for resisting disease carried by milk. A cow may furnish excellent food for a calf, but at the very best only indifferent food for a human baby. Yet 75 per cent. of nurslings are fed by the cow. The protection of the milk supply, therefore, is one of the greatest measures of protection for our future citizens. How many cities, he asks, have clean milk? The only cities possessing a milk ordinance requiring milk to be delivered under 50 F. are New York, Boston, Brockton, Los Angeles, Detroit, Cleveland, Cincinnati, St. Louis, St. Paul and Minneapolis. The only cities buying milk from tuberculin tested cows are Grand Rapids, Mich., Minneapolis, Montclair, N. J., Colorado Springs and Pasadena. He discusses the question of dairy farms and suggests that there should be in every health office a model milk room in actual operation, and that imprisonment should be the penalty for a second offense of breach of the milk laws. He suggests the need of a licensing permit after inspection of premises, herds, including the tuberculin test and appurtenances and care of shipping and retailers' facilities. This is not a purely medical question, but a great social one.

19. **Tuberculosis Among Medical Students.**—The prevalence of pulmonary tuberculosis among medical students and practitioners is well known, says Wile. The three places in the medical curriculum liable to be sources of infection are the clinical laboratory, the postmortem room and the wards. He suggests that as soon as the entering classes in medicine are enrolled, they should be addressed on the necessary and unnecessary dangers to which their work will expose them. They should be advised against overwork under-exercise and overstimulation. Good food is essential, and it is not often to be obtained at the cheap boarding-houses in the proximity of medical schools. The student should see that his rooms are not infected, and should insist on having them fumigated before occupation. One evening a week for the theater or other preferred diversion is an excellent rule, and no work on Sunday. One patient may contaminate an entire ward with tubercle bacilli. Patients should be instructed to cough under cover of a piece of gauze, and should use the regulation tin-covered sputum cups lined with pasteboard boxes to prevent spilling. In the laboratory no sputum should be examined in large bulk. The proper receptacle for sputum examination is the wooden screw box painted inside with black enamel, which should be expectorated into once or twice only. Its black surface renders it easy to discern the desirable elements for examination without transferring infectious material to another surface. The student should avoid contaminating his hands. Plenty of soap and water and some disinfectant should be always at hand. In the postmortem room means should be at hand and should be used for immediate and thorough cleansing of the hands after handling diseased tissues. He recommends the use of thin rubber gloves in the autopsy room.

American Journal of Obstetrics, New York.

January.

20 *Rôle of Gonococcus in Disease. R. W. Taylor, New York.
21 *Treatment of Terminated Ectopic Pregnancy. Report of Cases, Including One of Recurrent Ectopic Gestation. C. A. Stillwagen, Pittsburg.
22 *Extrauterine Pregnancy. Clinical and Operative Study of Over One Hundred Cases. L. J. Ladinski, New York.
23 *Management of the Puerperium from a Surgical Standpoint. A. Flint, Jr., New York.
24 *Care of the Patient in the Puerperium. F. A. Dorman, New York.
25 *Treatment of the Puerperium. S. Marx, New York.

20. **Gonococcus in Disease.**—Taylor sums up the activities of the gonococcus in disease as follows: It attacks the human urethra and there gives rise to both a catarrhal and a hyperplastic inflammation from which may follow chronic urethritis and a tendency to stricture. By contiguity of tissue it invades the testes and their appendages and thus threatens sterility in men. Limited in its effects, as a rule, to the subepithelial connective tissue layer, it in some cases by further invasion gains a foothold in the venous and lymphatic radicles of the male and female genitalia and produces local and general disturbances. By this extension the whole organism may be more or less seriously attacked and local disorder, much suffering and disability may result. The gonococcus then becomes a true factor of septicemia and serious and even mortal illness is to

be feared. Arthritis and rheumatism are the most constant concomitants of gonorrheal invasion and induce marked changes in the joints, the tendons, the bursæ and the muscles. Generalized systemic infection is most commonly observed when by extension (usually from the joints) the heart in part or in whole is attacked; then severe and perhaps mortal illness may be produced. In general, the reaction is in proportion to the extent of cardiac territory attacked, and such cases may assume a malignant form. Such is the antitoxic power inherent in the blood serum that in many cases, even when vital parts are attacked, the gonococcus is destroyed. By reason of its toxins or, perhaps the microbe itself, more or less structural change is produced in the cerebrospinal system, which may be local or more or less generalized. Gonococcic invasion of the pleura is not uncommon and various forms of phlebitis may thus result. While it has been shown that the spleen may be attacked, there has been no evidence of liver involvement described. A large range of cutaneous and mucous membrane lesions have their origin in the gonococcus. These are ulcers, abscesses and follicular lesions, erythematous and keratosic exanthems. Bone lesions of mild and severe forms are more or less remotely dependent on the virulent potentialities of the gonococcus. The whole genitourinary tract in the male may be involved by the gonococcus; the prostate, seminal vesicles, bladder, ureters and kidney may be attacked. Certain extragenital parts, such as the mouth, rectum, nares, umbilicus and eyes, are frequently the seat of gonococcic inflammation. Infection of the female genitourinary tract is very common. When the lower pudendal portions are involved there is less danger, but extension of the process to the uterus and parts above constitute menaces to health and life. The question as to whether an inhibitory serum may be produced to kill or jugulate the virulent microbe is yet unsettled. In the vast majority of all cases of gonorrhea the gonococcus is at first the absolute causal agent. The few cases in which a condition resembling gonococcic urethritis is produced by other microbes constitute but a drop in the bucket. While the gonococcus may become latent and may hibernate in tissues, crypts and follicles, it may at any time become potential. It also may lead to mixed infection and prepare the soil for other microbes which may run a severe course. The gonococcus thus shows itself capable of producing the most far-reaching infections to which the human race is liable.

21. Abstracted in THE JOURNAL, Nov. 9, 1907, page 1624.

22. **Extrauterine Pregnancy.**—Ladinski discusses the etiology, histology, course and termination, symptomatology and diagnosis, including (a) diagnostic signs of unruptured tube, (b) of ruptured tube, (c) differential diagnosis and treatment. In regard to the latter Ladinski can not agree with, nor does his experience confirm, the theoretical reasoning of those who advocate delaying operation in ruptured tubal pregnancy on account of the presence of profound shock. He has repeatedly operated effectually when there was no pulse at the wrist, and at times the operation has been done when the patient was absolutely unconscious and did not require anesthesia, either general or local. He reports a case in point and discusses the subject. The abdominal route he considers the route *par excellence* for tubal pregnancy. Venous infusion he regards as the most important life-saving measure next to rapid and skilful operation. In conclusion he says that tubal pregnancy has the same bearing on gynecology that appendicitis has on general surgery, and when we compare the frequency of each in women of the parturient age we shall find tubal pregnancy responsible for possibly as great a mortality and morbidity as appendicitis, and it is certainly entitled to the same consideration on the part of the general practitioner.

23. **The Puerperium.**—Flint advises the immediate repair of perineal lacerations, placing the sutures deeply and tying them loosely. The contraindication to immediate repair is the exhausted condition of the patient. Flint repairs laceration of the cervix only when extensive enough to cause hemorrhage. One or two plain catgut sutures placed high in the angle of a torn cervix is the next best method of arresting hemorrhage. He still uses the binder for comfort's sake. Vaginal douches should not be given, but the vulva should be irrigated after each evacuation of the bladder when dressings are changed. Hemorrhage occurring early is most commonly due to retention. Curettage with a large blunt curette (never a sharp one) should be practiced, if necessary, after digital examination. An intrauterine douche of hot sterile salt solution should be given and the patient put to bed. Later hemorrhages are commonly due to imperfect involution. The possibility of chorioepithelioma must be remembered and scrapings should be examined microscopically; immediate hysterectomy should be done if it is found. Flint recommends careful physical examination at the end of the fourth and sixth week for subinvolution and displacements. Tampons of boroglycerin or tannic acid and glycerin between the periods give astonishing results. In addition, strychnin and ergotin may be administered internally and hot douches may be given.

24. **Id.**—Dorman urges the importance of the nurse and patient being mutually congenial as well as that the nurse should be efficient. No nurse should be engaged till this point is settled, and several should be tried if necessary. Catharsis is necessary for almost every patient. He recommends fluid extract of cascara in dram doses. He discusses various ailments, and in regard to drying up the breasts he recommends that they be bandaged when empty, with a bandage giving firm, even pressure; the nipples disinfected and covered with sterile cotton; a dry diet, and a daily morning saline cathartic. The bandage must keep up firm, continuous pressure, and on no account must it be removed and the parts massaged. For pain he advises icebags locally and a little codein.

25. **Id.**—Marx's custom for many years has been to allow the mother a most liberal diet, even immediately after labor, in the absence of any contraindication. He has seen no evil results. Sepsis comes from filth, not feeding. He administers small doses of ergot during the puerperium. After-pains call for careful Credé treatment daily, and posture to aid drainage; ten grains (0.65 gm.) of chloral every hour until relief, or codein one to two grains (0.065-0.13 gm.) by mouth or rectum. Gelsemium and bromids are occasionally of value. Douches he considers unnecessary except for esthetic reasons at the end of the first week. The rubbing of the nipples to prepare them for lactation he considers a most prolific cause of complications.

Lancet-Clinic, Cincinnati.

January 25.

26 *Reasons for Some Unsatisfactory Results, and the Remedy, in the Treatment of Anorectal Diseases. B. Asman, Louisville, Ky.
27 *Local Anesthesia Versus General in Rectal Surgery. G. B. Evans, Dayton, Ohio.
28 Rheumatism. T. C. Crawford, Dunkinsville, Ohio.
29 Treatment of the Stump in Appendectomies. F. C. Merriweather, Asheville, N. C.

26. Published in the *American Practitioner and News*, October, 1907, and abstracted in THE JOURNAL, Nov. 9 1907, page 1630.

27. Abstracted in THE JOURNAL, Oct. 26, 1907, page 1466.

Medical Fortnightly, St. Louis.

January 25.

30 *Hyperemesis Gravidarum and Its Treatment. W. H. Vogt, St. Louis.
31 The Distal Mesenteric Artery. B. Robinson, Chicago.
32 Case of Multiple Bowel Perforations Due to Gunshot. J. W. Shankland, St. Louis.
33 Case of Multiple Stab Wound of the Chest and Abdomen, with Prolapse of Viscera. W. C. G. Kirchner, St. Louis.
34 *Opsonic Index and Active Immunization. E. H. Shorer, Columbia, Mo.

30. **Hyperemesis Gravidarum.**—Vogt describes the various causes predisposing to this condition, namely, congenital malpositions and shapes of the stomach, usually associated with external evidence in the breasts, pelvis, etc.; acquired malpositions in shapes of the stomach brought about by tight lacing; organic stomach diseases; chlorosis and anemia; nervous diseases; poor living and improper nourishment, and changes in the sexual organs. He considers, for reasons adduced, that hyperemesis gravidarum is really caused by syncytial intoxication of at present undetermined origin. It seems to induce a

certain temporary immunity, hence its greater commonness in primiparæ. He suggests treatment by the injection daily of from three to five quarts in divided portions of normal saline solution, allowed to flow very slowly, into the bowel. An irrigating can or fountain syringe may be used, with a large-sized rubber catheter attached, which is passed high into the bowel, the irrigator being not more than three feet above the level of the patient. The solution is lukewarm. Rest in bed, iced milk in tablespoonful doses as the only nourishment, and a cleansing irrigation of the bowels every morning are also recommended. In great irritation of the bowels, the addition of from ten to twenty drops of tincture of opium to the saline solution is advised. Vogt considers that the more general adoption of this treatment would enable many more women to carry their infants to term.

34. **Opsonic Index.**—Shorer details the history of the researches which culminated in Wright's work. From his own study of the opsonic index in various diseases, but especially in erysipelas, he criticises the method on two counts: 1, The unreliability of the determination of the opsonic index; 2, the uncertainty as to the influence of bacterial treatment on the opsonic index. In general his attitude is rather a critical one against undue enthusiasm than an objecting one.

Denver Medical Times.

December.

35 *Tuberculosis of the Mouth. R. Levy, Denver.
36 Unusual Case of Pneumonia. C. V. Ganoe, Denver.
37 Preparation Before, During, and After Normal Labor. M. Weller, Denver.
38 Calx Iodata. R. J. Smith, Schenectady, N. Y.

January.

39 Transperitoneal Removal of Tumors of the Bladder. C. H. Mayo, Rochester, Minn.
40 Enormous Stone in Common Bile Duct, Pressing on Duodenum and Causing Symptoms of Pyloric Cancer. L. Freeman, Denver.
41 Pneumococcic Peritonitis. C. B. Lyman, Denver.
42 Case of Postoperative Acute Dilatation of Stomach. M. R. Root, Denver.
43 *Case of Complete Severance of Larynx with Recovery. A. L. Stubbs, La Junta, Colo.
44 Case of Stricture of the Esophagus. C. E. Ruth, Denver.
45 Stomach Troubles of Gall-Bladder Origin with Report of Operative Findings and Final Results. C. E. Tennant, Denver.
46 Outline Records of Flexion and Extension After Serious Injury of Elbow Joint. G. W. Miel, Denver.
47 Economy of Asepsis. H. G. Wetherill, Denver.
48 Influence of Trauma in Production of Displacements of Female Pelvic Organs. C. K. Fleming, Denver.

35. **Tuberculosis of Mouth.**—Levy points out that tuberculous lesions of the mouth include those involving the lips, cheeks, gums, hard and soft palates, tongue, teeth and alveolar processes. He does not include tuberculosis of the pharynx in his paper. Tuberculous lesions may manifest themselves in different forms, according to: 1, pathologic changes; 2, mode of development; 3, clinical course. Pathologic alterations are nodular infiltration, superficial ulceration, deep ulceration, perforating ulceration, necrosis of bone, chronic abscess, and tumor. The mode of development may be endogenous or ectogenous (Grünwald), corresponding to Holländer's descending and ascending forms. Clinically there may be malignant and benign forms. The ectogenous or ascending form, which may be designated as the inoculation variety or purely local, represents the less active, sluggish, or benign type; while the endogenous or ascending variety, representing infection through blood and lymph streams, through miliary deposits, or infection from within, corresponds to the active virulent type. Levy discusses in detail the etiology, subjective symptoms and objective signs, the latter being illustrated, diagnosis and treatment. For the relief of pain cocain may be used; curetting and cauterizing are also serviceable in some cases. The galvanocautery has been of some avail. Rest is of prime importance; nutrition must be maintained and local anesthetics used as necessary.

43. **Complete Severance of Larynx.**—Stubbs reports the case of a man who had attempted to commit suicide by cutting his throat, having cut it severely, as the subsequent description proves. The man seems to have been able to wash himself, dress in clean clothes and go down stairs to the hotel clerk, making signs for a doctor to be summoned. On examination Stubbs found a cut across the throat extending from the inner border of one sternomastoid to the other, the larynx being entirely severed between the thyroid cartilage and the hyoid bone. The wound was gaping and the larynx hanging two inches outside the opening. Fearing that through-and-through sutures would cause constant irritation, he closed the larynx without anesthesia by suturing the fascia and such few muscle fibers as could be found on the outside, closing the skin wound. Six hours later he was summoned again, the larynx having torn open. Stubbs opened the skin wound, sewed the larynx, just as one would a piece of hose, putting the needle below the first ring under the cut and above the first ring over the cut. He closed it tightly and closed the outside tissues and the skin. The sutures in the larynx apparently caused no irritation; no edema and no infection occurred, and in twelve days the patient went home entirely healed. The power to speak returned as soon as the larynx was closed. None of the large blood vessels was injured although a considerable quantity of blood was lost and the carotids could be seen pulsating in the wound.

Utah Medical Journal, Denver.

December.

49 *Etiology, Pathology and Diagnosis of Gastric and Duodenal Ulcers. A. A. Kerr, Salt Lake City.
50 *Medical Treatment of Gastric and Duodenal Ulcers. R. W. Fisher, Salt Lake City.
51 *Surgical Treatment of Gastric and Duodenal Ulcers. J. S. Richards, Salt Lake City.

January.

52 Surgery of the Thyroid Gland. A. C. Behle, Salt Lake City.

49. **Gastric and Duodenal Ulcers.**—Kerr discusses the etiology, pathology and diagnosis.

50. **Id.**—Fisher discusses the medical treatment of this condition, and incidentally remarks that the silver nitrate treatment, of which we have heard a good deal of late, while undoubtedly beneficial in cases, has also done a great deal of harm. He has seen the constant washing out of the stomach with silver solution in a number of cases which came under his observation result in making the patient worse.

51. **Id.**—The surgical treatment of ulcer is discussed by Richards, who considers that gastroenterostomy will fill more indications in the treatment of gastric and duodenal ulcers than any other single operation.

Ohio State Medical Journal, Columbus.

December.

53 *Surgery of Thyroid Gland. G. W. Crile, Cleveland.
54 *Duty of Medical Profession to Public. E. M. P. Brister.
55 Nasal Fibroma Invading Antrum of Highmore, Frontal Sinuses and Cranial Cavity. C. R. Holmes, Cincinnati.
56 *Mental Development. C. D. Mills, Marysville.
57 Pathology of Drinking Water. R. C. Longfellow, Toledo.
58 Pneumonia in Children. W. A. Dickey, Toledo.

53. **Thyroid Gland Surgery.**—Crile combats the idea of a 40 per cent. mortality rate in thyroidectomy to-day; that thyroidectomy is likely to be followed by insanity; that it is extremely dangerous, few patients ever recovering; that it is likely to cause myxedema, etc. He says that the surgery of benign tumors and hypertrophies of the thyroid is now placed on a basis comparable with that of appendicitis in the quiescent period of gallstones and of ovarian tumors. The mortality from unexpected complications is perhaps 0.5 or 1 per cent. in experienced hands. Exophthalmic goiter demands much further investigation. Excision of the thyroid breaks a pathologic chain and the cure is permanent. In a goiter under observation, if the gland begins to grow, it should be promptly excised, because of the great possibility that it may become a malignant growth. Many more thyroids should be removed, just as benign tumors elsewhere are removed, to prevent the development of malignancy.

54. **The Medical Profession and the Public.**—Judge Brister says that the medical profession owes to the public the most thorough preparation possible; an opposition to "patent medicines," to lost manhood cures, and other advertising abominations; a rectification of the status of medical expert evidence, in regard to which latter he holds that expert witnesses should not be subpenaed for either side of the case by the plaintiff or

defendant, but by the court for the whole case. They should not testify for or against any side, or for or against any theory of a case, but should apply their expert knowledge to the proved facts of the case and to nothing else. The hypothetical question should be simplified or even entirely abolished and a limit put on the number of experts who may testify in a given case. Another duty of the medical profession is to drive from its ranks the criminal abortionist. Finally, he would advocate a greater extension of the preventive principle in medical practice, the physician being retained to inspect his patient, regularly, say once a week, and to deal with him according to the examination. The regulation of marriage, the elevation of stirpiculture to the status of a practical science, and the improvement of sanitary conditions, etc., are parts of the duty of the medical profession to the public.

56. **Mental Development.**—Mills emphasizes the importance of an appreciation of the difference between the child and the adult, which would result in the radical modification of kindergarten methods with its mat weaving and sewing, which bring into action refraction and accommodation powers and accessory muscles at a time when the central muscular masses and the grosser movements are instinctive and much more important. He urges that "reasons why" should form a small part of early instruction in home and school and memory studies greater emphasis; that technical studies should be postponed until higher grades, and that children particularly should not be allowed to associate with any one that it will do them harm to imitate.

Journal of Ophthalmology and Oto-Laryngology, Chicago.

December.

59 Empyema of Sphenoidal Sinus. A. H. Andrews, Chicago.
60 Radiography and Transillumination in Diagnosis of Sinus Disease. J. C. Beck, Chicago.
61 The Eye, Ear, Nose and Throat Clinics of Vienna, Berlin and London. A. K. Higgs, Heppner, Ore.
62 *An Easy Method of Fully Everting the Lower Lid in Certain Cases; also an Easy Method of Everting the Eyelids of Infants. D. T. Vail, Cincinnati.

January.

63 Retinal Glioma, with Report of a Binocular Case Cured. C. Lukens, Toledo, Ohio.
64 Case of Congenital Coloboma of the Eyelid. W. O. Nance, Chicago.
65 *The Nose in Its Relation to Epilepsy. W. S. Bryant, New York.
66 Malignant Growths of the Nasopharynx. K. W. Baldwin, Philadelphia.

62. **To Evert the Eyelids.**—When it is found difficult to evert the lower lid, Vail recommends that the patient look downward and the upper lid be everted in the usual way. If he is then directed to look upward and at the same time the usual effort to evert the lower lid is made it will succeed. To evert the eyelids of a child Vail recommends the following method: The surgeon sits with the child's head lightly clamped between his knees, the child's body in the lap of the nurse sitting close by in a chair, and the child's hands held by the nurse. The feet are allowed to kick free. The entire finger nail of the left index finger is placed on the lower lid and the finger crooked so that the pulp of the finger tip will just override the edge of the lower lid; then the upper lid is gently pushed downward by means of the index finger of the right hand placed at the upper tarsal rim, until the free border of the upper lid overrides the pulp of the finger tip of the left index. Maintaining the pressure with the right index finger when this position is effected the upper lid is turned inside out by simply keeping the free edge of the upper lid against the pulp of the index finger of the left hand. The right hand is now free to use in everting the lower lid. Having everted the upper lid, the lower is easily everted by making pressure downward with the right thumb.

65. This article was published in the *Medical Record*, Nov. 23, 1907, and was abstracted in THE JOURNAL, Dec. 7, 1907, page 1953.

Montreal Medical Journal.

January.

67 *The Scientific Spirit in Medicine. A. B. Macallum, Toronto.
68 Obstetric Nursing. David J. Evans, Montreal.
69 Narrowing of the Uterus Successfully Treated by Operation. I. Olmstead, Hamilton, Ont.
70 Case of Cutaneous Horn. J. M. Elder, Montreal.
71 Effect of Anesthesia on the Opsonic Index. A. C. Rankin, Montreal.

67. **Scientific Spirit.**—Macallum deprecates the loose use of the term science. *Scientia* means knowledge in the ordinary and simple sense; to-day, in popular language, science is an oracular personality. This is wrong, for it makes a cult of a word and the word becomes a fetish. Science is simply organized knowledge, not of isolated facts, but of facts put in such relation to one another that all of them and the phenomena involved are explained. The scientific spirit is engaged in coordinating and organizing the knowledge of facts. It approaches every problem in the questioning mood, not greatly concerned whether the solution is or is not of practical utility. After marshaling facts it proposes an explanation to comprehend the why and how of them all, which remains as a working hypothesis until further facts overthrow it. The disparagement of the theorist of this kind is irrational. It is the extravagant theorist, whose speculations have no regard for ascertained facts or are based on no facts at all, who should rightly meet with deprecation; but as great an obstacle to knowledge is the so-called practical man, for he accepts, consciously or unconsciously, the popular explanations or theories, which in the majority of cases are either inadequate or wholly wrong.

Illinois Medical Journal, Springfield.

January.

72 *Modern Treatment of Tuberculosis; Climatic Fallacy. J. W. Pettit, Peoria.
73 *General Considerations Concerning Opsonins and Therapeutic Inoculations of Dead Bacteria. L. Hektoen, Chicago.
74 *Virulent Pneumococci, Opsonin and Phagocytosis. E. C. Rosenow, Chicago.
75 *Bacterial Vaccine Therapy in Tuberculosis. M. C. Lincoln, Chicago.
76 *Vaccine Therapy in Staphylococcus Infections. G. Frith-Hagans, Chicago.
77 *Bacterial Vaccine Therapy in Gonorrhea. R. Vail, Chicago.
78 *Clinical Results and Conclusions. J. C. Hollister, Chicago.
79 New Modification of the Primary Position in the Bloodless Treatment of Congenital Hip-Joint Dislocation. F. Mueller, Chicago.
80 Medical Treatment of Nephrolithiasis Urica. A. C. Croftan, Chicago.
81 Exophthalmic Goiter. O. M. Steffenson, Chicago.

72. **Tuberculosis: The Climatic Fallacy.**—Pettit reviews the opinions of authorities on the subject of climate in the treatment of tuberculosis and points out that everything tends to prove that climate is not an essential thereto. He does not deny that it may possess some value as an adjuvant, but he asserts that even in climatic resorts, sanatorium treatment is essential, and exactly the same conditions are imposed there as elsewhere. Moreover, a departure from the climate is usually followed by relapse, patients rarely remain long enough to effect a cure, the expense has impoverished innumerable families and many examples show that equally good results can be obtained if the same principles are applied, in almost any climate where pure fresh air can be obtained, no matter what the altitude, dryness, humidity, etc.

73. The ground of this paper was covered in Dr. Hektoen's remarks at the meeting of the Idaho State Medical Association, an abstract of which appeared in THE JOURNAL, Nov. 30, 1907, page 1870.

74 to 78. Abstracted in THE JOURNAL, Nov. 23, 1907, pages 1799 and 1800.

Maryland Medical Journal, Baltimore.

January.

82 Relations of Physicians and Pharmacists and the Use of the Pharmacopeia and National Formulary. L. F. Barker, Baltimore.
83 *Tumors of Lateral Aberrant Thyroid Tissue. A. McGlannan, Baltimore.

83. **Tumors of Aberrant Thyroid Tissue.**—McGlannan points out that only paired ductless glands of the body are organs most prominent in the production of aberrant collections of specialized tissue. While tumors of aberrant thyroid tissue are not so common as hypernephroma, they are still common enough to attract attention. They are found in all regions developed from the embryonic areas adjacent to the branchial tract. They are median or lateral, superior or inferior, according to their relation to the hyoid. Their common position is

that of the lymphatic glands of the neck and axilla. An important point apparently overlooked is the condition of the lymphatic glands in these cases. Normal glands would prove absence of metastases. Tumors of this type may be confused with other epithelial growths in which colloid degeneration has taken place, or myxomatous tumors may be mistaken for thyroid tissue. These tumors attract more attention in women because they share with the thyroid the physiologic hypertrophy that occurs with puberty, menstruation and pregnancy. Accurate clinical diagnosis is practically impossible. When exposed at operation, the naked eye appearance of the tumor is characteristic. The operation for the removal of these tumors is usually easy, but the presence of the thyroid in the normal situation must first be ascertained; lest by removal of the entire thyroid tissue a cachexia strumipriva should result. The author reports four cases.

Kentucky Medical Journal, Bowling Green.

January.

84 *Therapeutic Facts, Fads and Fancies. W. L. Heiser, New Haven, Conn.
85 *Leadership in Medical Organization. W. W. Richmond, Clinton.
86 *Technic and Advantages of the Modified Blood Clot Method of Closing the Wound in the Mastoid Operation as Used in Fifty-three Cases. J. A. Stucky, Lexington.
87 The Doctor—His Business Side—and His Relations to His Fellow Doctors. M. B. Stedman, Versailles.
88 Differential Diagnosis and Methods for Prevention of Spread of Diphtheria. A. L. Wagoner, Scottsville.
89 *The Trinity of the Urolog. C. L. Wheeler, Lexington.
90 Diagnosis of Tumors of the Brain. W. M. Ewing, Smith's Grove.
91 *Address on Sanitation. W. Bailey, Louisville.
92 *Varicose Veins of the Lower Extremity. J. M. Salmon, Ashland.
93 *Value of Laboratory Methods to the Country Practitioner. J. R. Cowan, Danville, Ky.

84. Abstracted in THE JOURNAL, Nov. 2, 1907, page 1551.

85, 86, 89. Abstracted in THE JOURNAL, Nov. 9, 1907, pages 1624, 1625.

91. **Sanitation**—Bailey recounts the progress made in recent years in public sanitation, including the recent Food and Drugs Act and the crusade against nostrums, and points out that sanitation can be accomplished successfully only by the aid of the masses, and, therefore, calls for education as a prime necessity. No money expended by the government, state or municipality yields such large economic returns as that given for securing public health, and he deplores the fact that while thousands of dollars can be obtained to stamp out Texas fever in cattle it is difficult to get even hundreds for the benefit of man.

92. **Varicose Veins.**—Salmon concludes that varicose veins of the lower extremity are a disease affecting principally young adults between the ages of 15 and 40. They may be cured by surgical operation in about 84 per cent. of the cases. Before attempting any operation it must be demonstrated that no serious obstruction to venous return exists in the deep veins. The operation which gives the best results is that which has for its object the extirpation of the internal saphenous vein and the obliteration of its anastomotic branches. In certain cases the Schede cut is advisable as an additional precaution against recurrence. The danger connected with operation is slight but it exists, and lies in the possibility of infection and embolism.

93. Abstracted in THE JOURNAL, Nov. 9, 1907, page 1624.

Journal of Advanced Therapeutics, Rahway, N. J.

January.

94 Physiologic Laws Relating to the Effects of Physical Measures as Employed in Therapeutics. (To be continued.) W. B. Snow, New York.
95 Vibration. F. A. Davis, Boston.
96 Cancer and Its Treatment by Cataphoric Sterilisation. (To be continued.) G. B. Massey, Philadelphia.

Providence Medical Journal.

January.

97 Report of Committee on Clean Milk for Babies.
98 Appendicitis Complicating Pregnancy in Eighth Month: Operation, Miscarriage, Recovery. C. O. Cooke, Providence.
99 Two Cases of Splenectomy. W. L. Harris, Providence.
100 Popliteal Aneurism; Radical Cure by Matas' Method of Operation. J. W. Keefe, Providence.
101 Cases of Rabies Treated During the Past Year in Rhode Island Hospital. A. A. Barrows, Providence.

American Practitioner and News, Louisville.

January.

102 Typhoid in Children. P. F. Barbour, Louisville
103 Malignant Diseases of the Rectum. F. W. Samuel, Louisville.
104 Care of the Infant. J. M. Witt, Waco, Texas.
105 Anesthesia, General and Local. C. E. Montgomery, Louisville.

University of Pennsylvania Medical Bulletin, Philadelphia.

January.

106 The Liver in Antiquity and the Beginning of Anatomy. M. Jastrow, Jr., Philadelphia.
107 Nélaton. A. P. C. Ashhurst, Philadelphia.
108 New Instrument for Measuring Marked Differences in Expansion on Two Sides of the Chest. R. S. Lavenson, Philadelphia.
109 *Chronic Cystic Mastitis. J. Speese, Philadelphia.
110 Anatomy of Parathyroid Bodies with Reference to the Surgical Aspects. N. Ginsburg, Philadelphia.

109. This article was published in the *Pennsylvania Medical Journal*, January, 1908, and was abstracted in the Society Proceedings in THE JOURNAL, Oct. 26, 1907, page 1465.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

January 18.

1 *Erythremia—Polycythemia with Cyanosis—Vaquez Disease. W. Osler.
2 Tropical Abscess of the Liver. T. R. Bradshaw.
3 *Preparation of Catgut for Surgical Purposes. Lord Lister.
4 *Excision of Cecum and Ascending Colon with Corresponding Lymphatic Area. J. F. Dobson and J. K. Jamieson.
5 *Legal Responsibility and Anesthetics. D. W. Buxton.
6 Arteritis Obliterans of Lower Extremity with Intermittent Claudication. F. P. Weber.
7 Certain Pupiliary Signs in Chorea. F. Langmead.
8 Case of Imperfect Development; Acrania. A. Yule.
9 Bone Cavities Treated by Stopping with Paraffin. A. J. Walton.
10 Electrolytically Produced Fluids Containing Hypochlorites, Their Manufacture and the Rationale and Chemistry of the Process for Securing Stability. F. W. Alexander.

1. **Erythremia.**—Osler discusses elaborately a remarkable case of the condition variously known as splenomegalia, polycythemia, Vaquez' disease and Osler's disease, polycythemia rubra, erythrocythemia megalosplenica, and erythemia. The last term is preferred by Osler because it is short, designates the most striking and most constant peculiarity, and indicates the analogy with leukemia, both affections being associated with states of morbid activity in the bone marrow. The condition, which was first described in 1892 by Vaquez, consists of hyperglobulism with cyanosis, and is believed by him to be due to overactivity of the blood-forming organs. Osler is in full accord with those who regard the disease as a hitherto unrecognized affection of the blood-making organs. The cardinal signs are a peculiar cyanosis, erythemia, and enlargement of the spleen; additional features are, occasionally, pains in the hands and feet, headache, constipation, high blood pressure, sclerosis of the superficial arteries, with a trace of albumin in the urine, bronchitic and asthmatic attacks, hemorrhages (petechiæ, hemoptysis, hematemesis or hematuria). Death from cerebral hemorrhage has occurred. With regard to the cyanosis, the color of the skin in health depends on two circumstances, the degree of fulness of the peripheral vessels and the rate of circulation in them. The degree of fulness shows remarkable differences both in individuals and in races. As to the rate of blood flow, normally the current is so rapid that the tint of the skin is arterial. Cyanosis results whenever the capillaries are full and the current is slow, but these factors must be combined. When both force and volume sink to a minimum pallor, not cyanosis, may result. The causes underlying the rate of blood flow are increase in the total volume of blood, increased viscosity and dilatation of the venules, with loss of tonicity in the peripheral veins. But cyanosis is not altogether a question of stasis and capillary engorgement. The peculiar color is a corpuscular affair, depending on whether the hemoglobin is oxidized or reduced. There are forms of cyanosis due entirely to changes in the hemoglobin, such as that produced by taking the coal-tar products, and enterogenous cyanosis due to toxic absorption from the intestinal canal. For the determination of the erythremia, of course, a blood count is essential. A true polyemia, a plethora vera, is present.

The red blood counts are greatly increased. As many as 13,600,000 per c.mm. have been counted. The enlargement of the spleen is a variable factor. It may precede the occurrence of cyanosis or not be discovered until after death. Theoretically polyglobulism may be due to a diminished destruction of the red blood corpuscles, to an excessive loss of plasma, and to an increased production of red cells. Osler does not agree with Weintraud, that the polyglobulism in this disease is due to retarded destruction, while the absence of pigment deposit appears to negative the idea of increased hemolysis. In the six known postmortem examinations of this disease were found, on the contrary, the indications of increased production, a plethora vera; intense hyperplasia of the bone marrow, a myelomatosis rubra; an enlargement of the spleen, with histologic changes indicative of chronic passive congestion; and a uniform hyperplasia of all the elements. Even this, however, does not tell us the cause of the mysterious flooding of the body markets with the products of its red blood factories. In this disease there is a condition in which, so far as we know, there is an oversupply without any corresponding demand, and the same riddle confronts us as in leukemia. Regarding treatment, we have nothing wherewith to control morbid processes in the bone marrow. Repeated bleedings have relieved vertigo; oxygen inhalations have relieved cyanosis and diminished the number of red blood corpuscles. In some cases the *x*-rays have diminished an enlarged spleen. Osler states, in a footnote, that a month of oxygen inhalations and *x*-ray treatment resulted in one case in a gain of several pounds in weight and an increase of strength; but there was no change in the cyanosis or the polycythemia, though the spleen was somewhat reduced in size.

3. **Catgut.**—Lister enumerates the requirements of satisfactory catgut for surgical use, namely, adequate strength against strain, the power to hold tight when tied in a reef knot, an absence of such rigidity as would cause it to work its way out by mechanical irritation, a sufficient life before absorption, and thorough asepticity. Chromium sulphate is the ideal substance in regard to these effects with the exception of asepsis, but this can be supplied by the addition of a little corrosive sublimate. Commercial chromium sulphate varies greatly in quality, hence the method devised by Lister and used since 1894, but never before published, which is as follows: The preparing liquid must be twenty times the weight of the catgut. So for forty grains (2.60 gm.) of catgut 800 grains (52 gm.) of preparing liquid are required. It is made by mixing two liquids—namely, the chromium sulphate liquid and the sublimate liquid. The sublimate liquid is:

Corrosive sublimate	13	gr. ii
Distilled water	20|70	gr. cccxx

The sublimate may be dissolved by heat, but the solution must be used cold. The chromium sulphate liquid is prepared thus:

Chromic acid	26	gr. lv
Distilled water	15|50	gr. ccxl

Add to this as much sulphurous acid (B. P. solution) as gives a green color. If more is added the color becomes blue, which shows that rather too much sulphurous acid has been used. It is well to reserve a few drops of the chromic acid solution to be added after the blue color has just appeared and restore it to green. Then enough distilled water is added to bring the green liquid up to 480 grains (31.10 gm.). The sublimate liquid is then added. The catgut is kept twenty-four hours in the preparing liquid, and is then dried on the stretch. Lister details experiments to prove the keeping qualities of this catgut. Two hundred and seven grains (13.40 gm.) of catgut thus prepared three years previously were chopped into short segments and covered in a mortar with 2,000 grains (129.60 gm.) of distilled water, enough to cover them. The gut was macerated in a stoppered bottle for seventeen hours and the infusion tested by the late Dr. Macfadyen with *Bacillus anthracis*, *Staphylococcus pyogenes aureus* and *Streptococcus pyogenes*, when it was found that the liquid inhibited growth in proportion to its degree of concentration and the length of time of exposure of the germs thereto. Lister cautions, however, against the danger of forgetting that the dry surface is liable to coptamination. His practice has been to put the catgut in 1/20 solution of carbolic acid about a quarter of an hour before the operation is begun.

4. **Excision of the Cecum and Ascending Colon.**—Dobson and Jamieson report a case of carcinoma of the ascending colon and one of tuberculous disease of the cecum, in which was carried out an operation suggested by them in a paper on the lymphatic system of the ascending colon, cecum and appendix (*Lancet*, April 27, 1907, page 1137), as being possible. The operation included the removal, in one piece, of the cecum, ascending colon, and the terminal portion of the ileum, together with the whole ileocolic chain of lymphatic glands, including the gland lying on the duodenum at the origin of the ileocolic artery. In both cases the patients made excellent recoveries and have since done well. Practically, the operation presents no special difficulties.

5. **Anesthetics.**—Buxton discusses the legal responsibilities of the anesthetist in relation to (1) the patient, (2) the operator, (3) the selection of the anesthetic. He considers the relation of the anesthetist to the dentist, to the unlicensed medical practitioner, and in regard to illegal operations.

British Medical Journal, London.

January 18.

11 *Preparation of Catgut for Surgical Purposes. Lord Lister.
12 *Results of the Operative Treatment of Chronic Constipation. W. A. Lane.
13 Passage of Food Through the Human Alimentary Canal. A. F. Hertz.
14 *Special Form of Dilatation and Displacement of the Stomach. T. S. Short.
15 Physiologic Aspects of Gastroenterostomy. H. C. Cameron.
16 Ether Anesthesia by Open Method. H. B. Gardner.
17 *Conveyance of Whooping Cough from Man to Animals by Direct Experiment. H. A. Macewen.
18 Hypersensitiveness to Antidiphtheritic Serum. R. T. Thorne.
19 Case of Vagitus Uterinus. S. McNaughton.

11. See abstract No. 3.

12. **Chronic Constipation.**—In the earliest cases in which Lane removed the greater part of the large bowel the symptom demanding it was pain, usually in the cecum, splenic flexure, or sigmoid. Noticing the startling change abruptly following operation from the cessation of the associated symptoms of autointoxication, he was induced to operate also in cases in which pain was not necessarily a marked feature, but in which life was becoming a burden through the misery and distress induced by the autointoxication and its results. At first he removed the large bowel only so far as the splenic flexure, but subsequently he excised the residual bowel in many such cases of incomplete resection; and in all primary operations he removed the entire large bowel with the exception of the rectum. Constant and abundant subcutaneous saline injection obviated the severe vomiting which occurred in the earlier cases. He reports a series of thirty-eight cases, with six deaths arising from various causes. In the remaining cases the patients not only did well, bnt recovered wonderfully good health.

14. **Dilatation of the Stomach.**—Short describes a form of dilatation of the stomach not due to pyloric obstruction or to the atonic gastrectasis of old people. The condition is associated especially with periodic attacks of severe pain—of a very acute type—relieved if the patient can vomit, but usually accompanied by inability to vomit. In the intervals between the painful attacks, discomfort, especially flatulence, occurs, the latter making its presence known not only by distension, but also by audible rumblings. There is also a want of proper assimilation of the food taken, as shown by loss of flesh, debility, and great depression of spirits, verging at times on melancholia. In investigating a large number of such cases Short has found that the condition present is dilatation with downward displacement of the stomach. In this paper he deals with the causes, diagnosis and treatment of this particular form of dyspepsia.

17. **Whooping Cough.**—Macewen describes an experiment with a cat from which he draws the following conclusions: Whooping cough is beyond doubt an infectious disease. The specific virus is contained in the sputum or vomit material or both. Infection may take place either during the process of swallowing or by ingestion of the infective agent. Cats are susceptible to whooping cough, and, therefore, may occasionally be the means of disseminating the disease.

Medical Press and Circular, London.

January 15.

20 Tuberculous Laryngitis. A. Wylie.
21 Suppuration of the Middle Ear. J. D. Grant.
22 *Sterilization of Air. S. Bernheim.
23 Diagnosis and Treatment of Simpler Forms of Conjunctivitis. L. Paton.
24 Congenital Talipes. W. F. Fedden.

22. **Sterilization of Air.**—Bernheim describes an apparatus of simple construction for sterilizing the air in rooms, etc. It consists essentially of a rectangular box containing a vat made of metal, and having good conducting properties, which is submitted to the action of a source of heat (gas or coal). The vat contains filtering matter—amianthus or filings. The sides of the box are pierced below and at the top for the inlet and outlet of air, the current of which is caused on heating the box to a temperature of 180 F. The size of the apparatus and the nature of the heating plant will necessarily depend on the amount of cubic space to be sterilized. A small closet or room may be served by an alcohol lamp, larger ones by a gas heater, a coal chimney, or even a special furnace. The exhausting action of the apparatus is said to be very powerful. A number of experiments are referred to in which air heavily laden with germs was shown, after the operation of the apparatus, to have its bacterial contents very materially reduced; as, for instance, in one case from 275,000 germs to the cubic meter to 32,000 in one hour. The apparatus is said to be so simple that any one is able to construct one exactly similar and to attach it to any chimney that draws well. The importance of this method for lying-in rooms, operating rooms, as well as other places where people congregate, should its claims be sustained, must be obvious. It is to be regretted, however, that the author's description is not more explicit as to the mode of construction.

Practitioner London.

January.

25 *Diagnosis of General Paralysis. F. W. Mott.
26 Etiology and Treatment of Lupus Erythematosus. J. H. M. MacLeod.
27 Anatomy of the Urethra. G. J. Jenkins.
28 Causes and Varieties of Urethral Stricture. A. Edmunds.
29 Treatment of Stricture of Urethra by Bougie. H. Lett.
30 Treatment of Acute Gonorrhea. J. Pardoe.
31 Diagnosis and Treatment of Gonorrhea. C. Gibbs.
32 *Review of Recent Work on Epidemic Cerebrospinal Meningitis. C. B. Ker.
33 *Arrest of Postpartum Hemorrhage. J. H. E. Brock.
34 Orthopedic Surgery. A. H. Tubby.
35 Subacute and Chronic Middle-Ear Deafness. M. Yearsley.
36 Ophthalmia Neonatorum. (To be continued.) S. Mayou.
37 Membranous Rhinitis. F. A. Rose.

25. **General Paralysis.**—Mott discusses the relation of syphilis to general paralysis and expresses his own conviction that practically speaking only those suffer from general paralysis who have acquired or inherited syphilis. It is necessary, therefore, to discuss the question of previous syphilitic infection in making a diagnosis. It must not be assumed that syphilis can be excluded simply because it can not be proved by the history or by residua in the body. He considers the diagnosis of general paralysis in relation to the phenomena of alcoholism, lead poisoning, dementia præcox, the various forms of brain syphilis and cerebral tumors. It is of the utmost therapeutic importance to distinguish between the various forms of brain syphilis and paralysis, for the latter is a neuronic decay, which can not be influenced by antisyphilitic treatment, whereas in apparently hopeless cases of true brain syphilis the patients may be either cured, partially cured, or greatly relieved by energetic treatment with mercury inunction and injection and large doses of iodid. Many of these cases are wrongly considered syphilitic general paralysis, whereas they are quite different pathologically. The most difficult question of diagnosis, perhaps, is that from alcoholic pseudoparalysis. The article is full of pointers, evidently the result of experience, that do not lend themselves to abstraction.

32. **Epidemic Cerebrospinal Meningitis.**—Ker reviews comparatively epidemic cerebrospinal meningitis as it has recently exemplified itself in New York, Leeds, Glasgow and elsewhere. He details the evidence for and against, in regard to its relation to posterior basic meningitis, and also particularly that of Fraser and Comrie, whose investigations strongly confirm the work of Jehle that the disease is in large part spread by carriers through their nasopharyngeal secretions. With regard to the course of infection, it is interesting to learn that it is considered more likely that both Leeds and Glasgow were infected by transmigrants from the continent of Europe, passing through *en route* for America, than by emigrants from America; for in the latter event, Liverpool and Southampton should surely have suffered equally with Glasgow. The disease is very prevalent among miners abroad, particularly Poles, who pass through Scotland *en route* for America. The experience of the Edinburgh City Hospital favors the belief that the disease may be related to acute abdominal infection. Ker compares in detail the data of Billings' report on the symptoms in the recent epidemic in New York with the Leith and Edinburgh outbreaks, in which the Edinburgh figures as to the frequency of diagnostic symptoms tally almost exactly with those of Billings. There is no drug which can in any way be regarded as a specific. Morphin has the greatest reputation for the relief of certain symptoms, but Ker's experience is against its use, as he thinks the patient is usually the worse for it afterward. Chloral is probably the most satisfactory drug to use. Very hot baths, repeated three or four times in twenty-four hours, unquestionably constitute the best sedative treatment. Lumbar puncture for the relief of pressure, in his opinion, has an extremely limited value. He considers the various serums of Kolle and Wassermann, Jochmann, Ruppell and Flexner. Ker has used all of them at the Edinburgh City Hospital, but holds it too early yet to express any very definite opinion on the merits of this form of treatment. He is inclined to think that when given directly into the spinal canal a better result may be occasionally obtained than could be reasonably expected if the patient had been left without serum. Finally, he discusses the bacterial vaccine treatment and relates his experience with Radmann's method of using the cerebrospinal fluid of the patient himself by injecting 8 c.c. into the skin of the arm. Both of Radmann's patients recovered. Ker tried the method in three severe cases. Although he did not succeed in saving any of them, two patients appeared to be improved after the injections, and in all the opsonic index rose considerably. In none was there any inflammation at the seat of injection, which is a remarkable fact when it is considered that the fluid injected was almost purulent.

33. **Postpartum Hemorrhage.**—The treatment of postpartum hemorrhage, Brock says, is dependent on the question whether after separation of the placenta it is arterial or venous blood that is lost during a flooding. Brock goes into detail in regard to this subject and expresses his opinion, contrary to the prevailing one, that the bulk of the blood lost in postpartum hemorrhage flows from the maternal sinuses, through the uterine veins by a backwash from the inferior vena cava; consequently, the treatment of serious postpartum hemorrhage resolves itself into that of regurgitant venous hemorrhage, and must be carried out by one of two methods: 1, The application of direct pressure to the bleeding sinuses, after the method advocated by Dr. Herman, of introducing one hand closed into the vagina, while, with the other, the fundus of the uterus is pressed down on to it through the abdominal wall; or 2, elevation of the pelvis and compression, not of the aorta, but of the inferior vena cava, by precisely the same maneuver. He is of opinion that the method for arresting postpartum hemorrhage by compression of the aorta depends for its success on the compression, not of the aorta, but of the inferior vena cava, thus stopping the backwash of blood from the latter vessel.

Glasgow Medical Journal.

January.

38 Development, Growth and Reproduction of the Short-Lived Hairs. T. Reid.
39 *Calmette's Ocular Reaction to Tuberculosis: A Suggestion of Caution in Its Use. A. Napier.
40 *Diagnosis and Treatment of Appendicitis. A. E. Maylard.
41 Diagnosis and Treatment of Diseases of the Lachrymal Passages. A. M. Ramsay.
42 Symptomatology of Acute Abdominal Diseases. J. Patrick.

39. **Tuberculin Ocular Reaction.**—Napier thinks the encomiums on this measure must be accepted with reservation. In two

cases of pulmonary tuberculosis he could get no reaction at all, though he tried again and again. On the other hand, sometimes there is a violent reaction. He reports two cases tending to show that the instillation of Calmette's solution, even when it gives rise to no apparent reaction, brings about a local change of some kind which responds sharply to the introduction of a moderate dose of tuberculin into the circulation. It causes the conjunctiva to react locally exactly as a latent tuberculous focus would act.

40. Appendicitis.—Maylard gives the following as the conditions calling for operation: 1. Operation is imperative and immediate so soon as it is believed that the symptoms indicate perforation into the general peritoneal cavity. 2. It is also imperative when, at the expiration of forty-eight hours, there are wanting evident signs of improvement. 3. It is advisable at the end of a week in all cases of acute appendicitis which have taken even the most favorable courses. 4. It is indicated in all cases of subacute recurrent attacks of appendicitis. He rests his advice in the third case on the grounds that at this particular period of the illness the operation is exceptionally easy and safe, and that it removes all possibility of future complications.

Clinical Journal, London.

January 15.

43 Case of Muscular Atrophy. W. P. Harringham.
44 Surgical Diseases of Children. A. H. Tubby.
45 Pneumonia and Its Complications. H. Mackenzie.

Journal of Tropical Medicine and Hygiene London.

January 1.

46 Malarial Prophylaxis in Small Communities in British Central Africa. R. Howard.

Annales de l'Institut Pasteur, Paris.

December XXI, No. 12, pp. 929-1008.

47 Relations Between Cobra Venom and Its Antitoxin. A. Calmette and L. Massol.
48 Treatment of Experimental Infection with the *Trypanosoma gambiense*. F. Mesnil and M. Nicolle.
49 How to Combat Anaphylaxis. Besredka.
50 Lesions of the Small Intestine of the Pig, Produced by the Giant Echinorhynchus. Welnberg and Romanovitch.
51 Trypanosomiases of the Ivory Coast. G. Bouet.
52 Research on Opsonins. J. G. Sleeswijk.
53 Influence of Lactic Ferment on the Flora of the Excrements of Mice. J. Belonovsky.
54 Technic for Isolation of Anaërobic Bacteria. F. Marino.

Bulletin de l'Académie de Médecine, Paris.

December 31, 1907, LXXI, No. 45, pp. 603-622.

55 Rousseau a Sufferer from Unsuspected Urethral Stricture. (Maladie de J. J. Rousseau.) A. Poncet and R. Leriche.
56 Abortive Local Treatment of Syphilis. H. Hallopeau.

January 1, No. 1, pp. 1-52.

57 Intoxication with Carbon Monoxid During Sleep. Gréhant.
58 Importance of Daily Dosage of Gases in Air of Mines to Prevent Catastrophes, and Apparatus for Measuring Gases. Id.

Beiträge zur klinischen Chirurgie, Tübingen.

December, 1907, LV, No. 2, pp. 263-580.

59 *Present Status of Operative Treatment of Acute Diffuse Suppurative Peritonitis. G. Hirschel.
60 *Peptic Ulcer of the Jejunum. T. Schostak.
61 *Pathology and Treatment of Splenomegaly with Cirrhosis of the Liver. (Banti'sche Krankheit.) F. R. Nager and J. Bäumlin.
62 Laparotomy for Subcutaneous Rupture of Spleen. (Milzruptur.) M. Haffter.
63 Operative Treatment of Exophthalmic Goiter. (Morbus Basedowii.) H. Moses.
64 Operative Treatment of Internal Hernias. A. Jaehne.
65 Primary Angioma of the Muscles. H. Kolaczek.

59. Operative Treatment of Acute Diffuse Suppurative Peritonitis.—Hirschel's extensive monograph reviews the history of operative treatment and relates his experience with 110 cases. He preaches the necessity for surgical measures in every case of diffuse peritonitis unless the patient is actually moribund. Even in the most threatening cases the intervention is liable to induce a change for the better. There are certain established indications for rinsing out the cavity, as he relates in detail, and he advocates the use of 1 per cent. camphorated oil as a means of preventing further absorption of the exudate. The incisions should be ample, and be drained, tamponed and dressed as open as possible.

60. Peptic Ulcer of the Jejunum.—Schostak reports 4 cases from Krönlein's clinic and reviews 31 from the literature. He discusses the possibility of the condition being due to peptic influences, that is, disturbances in the circulation and the digesting action of the acid juice, or to bacterial processes, and reviews the gastric measures effectual in prophylaxis.

61. Splenomegaly and Cirrhosis of the Liver.—Nager and Bäumlin assert that Banti's disease must be regarded as an actual disease entity, a primary affection of the spleen. Careful differentiation will exclude the many contradictions noticeable in the cases of alleged Banti's disease that have been published. It is particularly important to differentiate between inherited syphilis and cirrhosis of the liver. The first (anemic) stage of Banti's disease is identical with primary splenomegaly and splenic anemia. Splenectomy is the only correct treatment for these cases. It should be supplemented by a Talma operation in the stage with ascites.

Deutsche medizinische Wochenschrift, Berlin.

January 9, XXXIV, No. 2, pp. 49-88.

66 *Management of Third Stage of Labor. (Nachgeburtsperiode.) F. von Winckel.
67 Ocular Reaction to Tuberculin. (Ophthalmoreaktion.) R. Schenck.
68 Measurement of Diastolic Blood Pressure in Man. (Weitere Untersuchungen über Messung des diastolischen Blutdruckes.) J. Strasburger.
69 *Treatment of Pruritus. Kromayer.
70 *Functional Diagnosis and Dietetic Treatment of Chronic Intestinal Catarrh. (Darmdiagnostik und chronischer Darmkatarrh.) L. von Aldor.
71 Coincidence and Connection Between Vasomotor Dermatoses and Achylia Gastrica as Part Manifestation of Congenital Asthenia. G. Graul.

66. Management of Third Stage of Labor.—von Winckel found that the placenta was spontaneously expelled in 569 of 968 cases in less than half an hour; in 262 in one hour, and in 137 in less than two hours. He advises expectant treatment to the end of the second hour. In 40 out of 1,008 cases, that is, in only 3.7 per cent., the placenta had not been expelled by the end of the second hour, and expression according to the Credé, Schroeder or Schatz technic became necessary. He emphasizes the fact that these manipulations should be done only during a labor pain. All the escaping blood and that accumulated in the placenta is caught in a bedpan. If 500 gm. have accumulated and the afterbirth has not been expelled, he loosens the placenta with two fingers, but adds that this is the most dangerous of all obstetric operations. Whether it should be done with gloves or not is still open to discussion. His total morbidity in 8,097 childbirths—1900-1904—was 14.86 per cent. Ten European clinics have reported a better percentage than this, but seventeen others have had still higher morbidity. The amount of blood lost ranged from 60 to 530 gm. in the normal deliveries, an average of 225 gm., which is about the same or a little less than the average lost under more active measures for the third stage of labor. He complains that too much attention is paid to operative and other active measures in the teaching of obstetrics, and that students are not trained to rely on Nature to the proper extent.

69. Effective Treatment of Pruritus.—Kromayer advises having plenty of prescriptions on hand for pruritus, as the various salves soon lose their efficacy and a frequent change is advisable. He prefers tar and its derivatives, with, further, tumenol, menthol and sandal oil. He has found the latter very useful. He remarks that the treatment of pruritus, like that of eczema, is the touchstone for the skill of the dermatologist. If the ordinary measures fail to cure the pruritus, he advises causal treatment by cauterization of the tiny serous blisters under the epidermis, which he has found constantly in the pruriginous skin, even in the very earliest stages of the pruritus. He wipes off the itching region with cotton moistened with a 15 per cent. solution of caustic potash. After a few seconds transparent spots appear on the skin, about the size of a pinhead. When the skin is rinsed off with water, these spots are seen to project above the surface of the skin, looking like swollen and burst grains of sago. These are the remains of the blisters. The epidermis covering them opposes less resistance than normal skin to the action of the caustic, which thus eats its way into the blisters and destroys them in elective style. As the itching is the result of the irritation from these blisters, as soon as they are destroyed the pruritus is cured for the

time being or permanently by a single application of the caustic potash. The caustic must be washed off thoroughly in from five to thirty seconds, according to the thickness of the skin at the part. This measure is not applicable when the surface is inflamed or excoriated or for application to mucous membranes. He does not hesitate to apply the caustic potash to an entire limb if need be, and has never seen bad effects. The cauterization is liable to be somewhat painful, but the patients sometimes consider even this a welcome relief from the unbearable pruritus. He dresses the part afterward with moist compresses or salves, and healing is complete in a few days. He has thus treated 160 patients. In one case the pruritus between the scapulæ had lasted for years; the patient, a physician, had been advised to have the patch of skin excised, on account of the terrible itching. A single, vigorous application of the caustic potash effected a cure. A number of small ulcerations followed, but soon healed. In another case, a woman of 40, had suffered for ten years from pruritus of the neck, shoulder and thigh. The parts were excoriated from scratching, and there was a tendency to lichenification. Under sulphur, the acute inflammatory conditions retrogressed in a week, and the caustic potash was applied in a mild form. Three weeks later the pruritus recurred and the caustic was applied again, followed by a salve; there was apparently complete cure for six months, after which a tendency to recurrence became apparent. This is the usual course in the chronic cases; it is rare when an old pruritus can be banished at one sitting. He has treated forty patients with Roentgen rays, alone or in combination with the caustic potash, and describes the technic which he has found effectual, especially for pruritus ani. He does not shrink from a Roentgen dermatitis of the first degree, finding that vigorous application is essential for causal treatment. The main point is to have the rays actually reach the part. The patient has to assume the knee-elbow position, and the attendant holds the buttocks apart with his hands while the patient strains, thus causing the mucosa of the anal region to protrude. The time of exposure can be shortened by having the tube only 5 cm. from the anus. The example of this treatment given is the case of a man of 40, who had had pruritus ani for many years; the skin of the region was much thickened and lying in folds. Seven exposures, each 5 or 6 minutes long, were made in 10 days; the amperage was from 3 to 4.5, voltage from 40 to 64, the total amounting to four normal Roentgen doses. The itching ceased after the third exposure, but slight redness and pain persisted in the exposed region for two or three weeks.

70. **Treatment of Chronic Intestinal Catarrh.**—L. von Aldor states that his further experience has confirmed the superiority of the method of treating chronic intestinal catarrh by high injections of hot Carlsbad water, after failure of ordinary measures, but he does not advise this local treatment for the acute or recent cases. He descants on the importance of examining the stomach functioning in intestinal affections, declaring that the gastrogenic form of intestinal disturbances yields most readily to appropriate treatment. He says that there is scarcely any alteration in the stomach functioning which is not able to produce obstinate intestinal trouble mentioning the obstinate diarrhea accompanying achylia gastrica as an example in point. Achylia gastrica seldom causes any symptoms referable to the stomach, and the resulting diarrhea is generally misinterpreted and treated with bismuth, opium, etc., and the diet incorrectly regulated—all measures which have a distinctly injurious action on the stomach and are liable to extinguish the last spark of normal gastric functioning. Owing to the absence of hydrochloric acid in the stomach, there is no stimulus for the production of pancreatic juice, and consequently the digestion lacks this latter important element also. This explains the efficiency of hydrochloric acid given to patients with achylic diarrhea. The hydrochloric acid is not given in amounts sufficient to replace the missing gastric secretion, but the amount ingested is sufficient to start the pancreatic secretion. The food must be such as will promote gastric secretion; abundance of albuminoids in the diet has this effect and may restore secretory conditions to normal. The diet must aim to spare the stomach from motor strain and to supply a substitute for the missing proteolytic function. These aims are realized by preparing the food in fluid form and with every device to stimulate the appetite. Systematic examination of the stools in 150 cases has confirmed the importance of Schmidt's test diet. It consists of 1.5 liter milk, 100 gm. zwieback, 2 eggs, 50 gm. butter, 125 gm. beef, finely chopped, raw or roasted, 190 gm. potato and 80 gm. of oatmeal gruel. This ration is divided into five meals during the day, and is repeated on the two following days. The repeated finding of particles of muscle or muscle fibers in the stool points to an affection of the small intestine, but exaggerated putrefaction of albumin with gas formation and alkaline reaction is a sign of a diffuse affection of the entire intestinal tract. Gas formation and an acid reaction denote fermentation of carbohydrates. The test diet thus shows how to regulate the diet, suppressing meat in case the muscle fibers are undigested, or dropping the albuminoids or carbohydrates in case of positive findings with the putrefaction or fermentation tests. He adds that when the test diet indicates that albumin should be restricted, gelatin will be found an ideal substitute. It resembles albumin in its composition, is readily digested and is almost completely absorbed, while it also serves to save albumin. Senator has recently advocated gelatin in treatment of gastric ulcer, and von Aldor has used gelatin in 60 cases of intestinal catarrh with excellent results, finding it an absolutely ideal article of food in cases in which the muscle fiber test gave positive results, or when the patient was much debilitated by prolonged intestinal catarrh. Prepared from calves feet and eaten as a meat jelly, flavored with lemon or hydrochloric acid, it is relished for a time by the most fickle appetite. Pure gelatin may be given dissolved in bouillon or in other ways.

Mitteilungen a. d. Grenzgebieten d. Med. und Chir., Jena.

XVIII, No. 3, pp. 377-566. Last indexed, Jan. 4, p. 82.

72 *Experimental Research on Functioning of Parathyroid Bodies. (Epithelkörperchenfunktion.) H. Pfeiffer and O. Mayer.
73 *Difficulties in Diagnosis of Abdominal Tumors. P. Kroemer.
74 *Appendicitis and Gastric Ulcer. F. Mahnert.
75 *Carcinomatous Supraclavicular Glands on Right Side with Gastric Carcinoma. (Supraclaviculardrüsen bei Magencarcinom.) P. H. Hosch.
76 *Surgical Treatment in Epidemic Cerebrospinal Meningitis. (Epidemische Genickstarre.) Radmann.
77 Obliteration of Appendix. (Obliteration des Wurmfortsatzes.) C. Tomita.
78 Tumors of Appendix. (Geschwülste der Appendix Vermiformis.) R. de J. de Jong.
79 *Stomach Tube and Tracheotomy to Relieve Disturbances in Swallowing and Breathing in Tetanus. (Schling- und Atmungsstörungen beim Tetanus und deren Behandlung.) P. Harrass.

72. **Experimental Study of the Functions of the Parathyroid Bodies.**—Pfeiffer and Mayer devote 63 pages to the detailed report of long series of experiments on dogs and mice, which confirm the assumption that postoperative tetany is the result exclusively of the loss of parathyroid functioning. They do not believe that the hypertoxicity of the urine is due to any special tetany toxin, but think that it is merely the symptomatic expression of the increased metabolism during the attacks. Other findings supply an experimental basis for the clinical findings of Escherich in respect to the constant morbid changes in the parathyroid bodies in children who exhibit a tendency to tetany.

73. **Difficulty of Diagnosing Abdominal Tumors.**—Kroemer gives the details of twenty-one cases of abdominal tumors in which the diagnosis was a difficult matter, and expatiates on the advantages of an exploratory incision over mere puncture.

74. **Frequent Coexistence of Appendicitis and Gastric Ulcer.**—Mahnert reports 50 cases in which an ulcer developed in the stomach after an attack of appendicitis, probably from the tendency to thrombosis and embolism liable with appendicitis. In 10 cases the gastric ulcer developed sooner or later after an operation on the appendix or was discovered at the time of the appendectomy. In 4 others, the ulcer in the stomach with coexistent appendicitis was an autopsy finding. In 7 others, a threatening ulcer in the stomach developed in patients who had at some time passed through an attack of appendicitis under medical treatment only. In 20 other cases, the gastric ulcer developed in patients who were unaware that

the appendix was diseased, but study of the anamnesis revealed signs of disturbances and symptoms which were readily recognized as the result of chronic inflammation of the appendix. In the 8 other patients with gastric ulcer, there had been no signs to indicate appendicitis, but investigation revealed objective findings demonstrating the existence of chronic inflammation of the appendix. In addition to these 50 cases, he has observed a number of others in which there was a strong probability of latent chronic appendicitis with a coexisting ulcerative stomach affection, although absolute proof of the appendicitis was not forthcoming. During the last two years, he has been able to detect chronic appendicitis in 64 per cent. of 36 cases of pronounced gastric ulcer. These findings confirm Payr's announcements in regard to the way in which the appendix throws off thrombi while the omentum plays only a passive part. He succeeded in producing in animals hemorrhagic erosions, infarcts, hemorrhages and ulcers in the stomach and duodenum by artificially induced embolism in the veins of the omentum and mesentery. Mahnert thinks that all these facts point to the necessity for removal of the appendix, not only in acute inflammation, but also in the chronic and latent forms of appendicitis. The surgeon operating for appendicitis should always examine the stomach and environment for possible ulceration.

75. **Cancerous Involvement of the Supraclavicular Glands with Gastric Cancer.**—Hosch describes a case in which the diagnosis wavered between tuberculous peritonitis and abdominal cancer, but the discovery of metastatic enlargement of the supraclavicular glands differentiated malignant disease. He thinks that these glands have differential importance for malignant disease of the alimentary canal, if scrofula and syphilis can be excluded, especially when the glands are small and hard, close under the skin and movable. There was no painfulness, spontaneous or on pressure, in the cases on record, but their increasing size is an important differentiating point. As extirpation of one of these glands for microscopic examination is such a comparatively trifling matter, he advises this as a routine measure, and relates some instructive examples of the benefits of such exploratory excision, allowing surgical removal of the primary growth at a stage when its existence was still very dubious, as it had given no conclusive signs of its existence. The tell-tale glands were always on the right side in his experience and in the records in the literature.

76. **Surgical Treatment of Epidemic Cerebrospinal Meningitis.**—Radmann reports two cases to show the benefits liable to be attained by systematic drainage of the lateral ventricles to relieve hydrocephalus. He is not convinced of the advantages of lumbar puncture in this disease, thinking that baths and wet packs relieve the severe symptoms of the early stage better than puncture, but he has found that drainage of the hydrocephalus in the later stages is liable to produce great improvement. He gives an illustrated description of the little wire frame, in which four wicks are introduced for drainage.

79. **Treatment of Disturbances in Swallowing and Breathing in Tetanus.**—Harrass was unable to save either of the two patients, reports of whose cases are published, but he calls attention to the remarkable way in which the disturbances in breathing were relieved at once and permanently by tracheotomy, while the introduction of a stomach sound relieved the disturbances in swallowing. The sound should be introduced under general anesthesia in order to avoid starting reflex cramps, and should be left in place for some time. Tracheotomy, he thinks, is indicated not only in case of spasm of the glottis, but also when there is spasm of the intercostal and auxiliary respiration muscles. Absolute inability to swallow was cured permanently in his first case after the stomach sound had been introduced and left in place for twenty or thirty minutes. The patient was able thereafter to drink freely. The paralysis or spasm of the respiratory muscles was likewise cured by the tracheotomy, no further spasms being noticed for twenty-one hours until they recurred, mild and rare, four hours after removal of the tracheotomy tube. The patient succumbed suddenly to heart failure when apparently well on the road to recovery. The second patient succumbed in the first spasm of the respiratory muscles, before tracheotomy was possible, but had previously derived great benefit, in regard to swallowing, from introduction of the stomach sound under the chloroform given while the primary wound on the arm was being treated with pure carbolic acid and alcohol.

Virchows Archiv, Berlin.

December, 1907, CXC, No. 3, pp. 381-560.

80 Syncytium-Containing Tumors in Testicles. ("Syncytium"-haltige Hodentumoren.) J. G. Mönckeberg.
81 Tumors of Maxillary Sinus. (Geschwülste mit epulidem Grundgewebe.) H. Böhmig.
82 Pathologic Anatomy of Leukemia. E. Fabian, O. Naegeli and O. Schatiloff.
83 Hernia in Region of Duodenum and Jejunum. R. Basset.
84 Physiologic Proportion of Bromin in the Organism. (Brom-Gehalt des Organismus.) J. Justus.
85 Elimination of Bilirubin Crystals in Severe Icterus. Waechter.

Wiener klinische Wochenschrift.

January 2, XXI, No. 1, pp. 1-36.

86 The Latest Achievements in Syphilology. E. Finger.
87 Results of Experimental Cancer Research to Date. (Krebsforschung.) G. Joannovics.
88 Meningococcus Toxins and Antitoxins. (Meningokokkengifte und Gegengifte.) R. Kraus and R. Doerr.
89 Differentiation of Cutaneous Reaction to Tuberculin in Adults. J. Kentzler.
90 *Aims and Practical Results of Scopolamin-Morphin Anesthesia in Obstetrics. O. P. Mansfeld.

90. **Scopolamin-Morphin in Obstetrics.**—Mansfeld, assistant at Tauffer's maternity at Budapest, spent six weeks at Freiburg studying the technic and practical value of the scopolamin-morphin anesthesia as practiced by Krönig and Gauss. He calls attention to the prevalent erroneous conception that this method of anesthesia is designed to abolish the pain of labor. Krönig and Gauss, he declares, do not attempt to banish the pain, but aim solely to deprive the woman of all memory of childbirth, including the memory of the pain. They believe that the remembrance of the childbirth is liable to prove the starting point for a psychosis, neurasthenia or disturbances mistakenly attributed to the genitalia. They reason that if the woman has no remembrance of the birth process it can not enter as a factor into a psychosis. Mansfeld says that the first dose, scopolamin 0.00045 gm. (1/134 gr.), and morphin 0.01 gm. (1/6 gr.), is never given until the obstetrician is convinced that labor is going to proceed normally and till severe labor pains recur frequently (every five minutes). This first dose does not, as a rule, affect the consciousness, and after an hour the second injection is given: scopolamin 0.0003 gm. (1/175 gr.), but no morphin. Thirty minutes later, the woman's power of attention is tested; she is asked if she remembers the injections, their number and the point at which they were made. The correct answer is marked on the record with a plus sign, inability to remember with a minus sign, and a dubious response with the two signs combined. Even if the answer is plus or dubious no new dose is given, but twice more at intervals of thirty minutes some object is shown to the patient, and again, thirty minutes later, she is asked if she still recognizes it. The second injection is thus made one hour after the first, and the third an hour and a half after the second, unless the attention is lost before this. No attention is paid to the patient's expressions of pain—the loss of the power of attention being the main point, as abolition of memory of the process is the result desired. When the attempt is made to suppress all pain there is danger of overdosage due to repeated doses of scopolamin, as usually only one dose of morphin is given. When an over-dose has been given the labor proceeds without any expression of pain, there is prolongation of the labor, asphyxiation of the child, and sometimes postpartum hemorrhage. The correct technic aims to have the third stage of labor proceed free from the influence of the scopolamin. The method of testing the attention is faulty, and it is used only in place of a better. The parturient must be roused from her drowsiness between the pains to answer questions, and intelligent answers can scarcely be expected under these circumstances. Mansfeld adds: "A well-conducted scopolamin-morphin childbirth requires enormous care, pains and constant attention. After the first injection the woman must not be left without continuous medical supervision, for—as all adherents of the method admit—there is perhaps no other drug that acts so differently in individual cases, and over-dosage may become evident even with minimal

doses." "As the child is expelled, the woman's face is covered, her ears plugged or the cry of the child muffled by the sound of running water. Thirty minutes after delivery the quietly sleeping woman is asked whether she has been delivered, and in most cases she has actually no remembrance of the birth process, and hesitates to believe that the child is actually hers." The passage of the head, he adds, may require ethyl chlorid necrosis to supplement the other, as it is difficult to be certain that memory of this event will be lost under the influence of scopolamin alone, without danger of over-dosage. Mansfeld lays stress on the fact that the method is dangerous when used outside of a well-equipped hospital or maternity. He cites with approval Hochheisen's dictum that the aspect of the patient, with red face and twitching hands, would frighten the family and render illusory any attempts to deaden the power of attention, while the necessity for constant oversight and the numerous attendants required to keep the woman tranquil and possibly to restrain her make the method absolutely impossible outside of a maternity.

Zeitschrift für Geburtsh. und. Gynäkologie, Stuttgart.

LXI, No. 2, pp. 185-448. Last indexed, Jan. 25, p. 323.

91 Obstetric Statistics in Mecklenburg Province in 1904. O. Büttner.
92 *Etiology and Prevention of Pregnancy Toxicoses. (Cholämie, Eklampsie, Hyperemese.) J. Hofbauer.
93 Unusual Incarceration of Gravid Uterus. H. Cramer.
94 Study of Function of Corpus Luteum. F. Kleinhaus and F. Schenk.
95 Frequency of Twins from One Ovum in Connection with Age of Mother and Sequence of Childbirths. (Häufigkeit der eineiigen Zwillinge.) F. Prinzing.
96 *Carcinoma of the Vulva. R. Teller.
97 Clinical and Experimental Research on Action of Certain Caustics on the Uterine Mucosa. (Wirkung einiger Aetzmittel auf die Uterusschleimhaut.) G. Burckhard.

92. **The Toxicoses of Pregnancy.**—Hofbauer ascribes to the liver the chief share in the toxicoses of pregnancy—cholemia, eclampsia and uncontrollable vomiting. He presents evidence to prove that the liver during pregnancy is the seat of an infiltration of fat in the central segments of the acini, associated with a deficiency of glycogen. There is stagnation of bile, with consecutive deposits of pigment in the interior of the lobulus and dilatation of the bile capillaries, central veins and afferent capillaries. These changes in the liver injure it to such an extent that when additional irritation is superposed from intoxication resulting from a ferment in the placenta—which he asserts is the principal cooperating factor in eclampsia—the liver is taxed beyond its powers of endurance, and the syndrome of eclampsia results, with the characteristic pathologic findings in the eclamptic liver. In the vomiting of pregnancy the liver shows the ordinary aspect of the pregnancy liver, as described above, which develops to an extreme, fatal phase in the fulminating cases. In case of uncontrollable vomiting in pregnancy, it is important to determine how far these morbid processes have progressed, and he thinks that Strauss' levulose test is instructive. The glycosuria after ingestion of 60 gm. (900 grains) of levulose is the limit for expectant treatment, beyond which the interruption of the pregnancy must not be deferred. These facts suggest the necessity for watching the liver during pregnancy. The diet should be regulated to exclude articles of food that have an injurious influence on the liver or on the flow of bile. All irritating articles of food should be avoided, and everything tending to favor catarrhal conditions in the intestinal tract, on account of the danger from secondary injury of the liver parenchyma. Conditions to promote the flow of bile should be made as favorable as possible, with plenty of exercise, avoidance of all pressure on the liver region, regular intestinal functioning, bathing, etc. The fact that the bile is apt to stagnate during pregnancy explains why gallstone affections are so common in women who have borne children. A sensation of oppression in the liver region is a premonitory symptom of pregnancy toxicoses, especially of eclampsia. In case of the latter, the ferment in the placenta causing the intoxication and further impairing the already seriously injured liver requires immediate removal of the placenta, the source of the ferment production. Delay is dangerous after the eclampsia is once certainly differentiated from hysteria and epilepsy. It is not only necessary to terminate the pregnancy, he asserts, the placenta must be got rid of as soon as possible. It is important, however, to refrain from forcible measures that might detach some villous elements and force them into the maternal circulation, and the placenta must be carefully examined to see that no scraps have been left behind. As anesthetics injure the parenchymatous organs, this factor of further impairment of the liver must be avoided so far as possible, using only the minimum of chloroform or, better still, of ether, in case there are no symptoms of bronchitis or incipient pulmonary edema. When eclampsia develops first after delivery the toxic substances absorbed from the involuting uterus or from the intestines may be responsible for the overburdening of the already incompetent liver, or the condition may be the result of retention of some scraps of the placenta. He adds a warning in respect to the different way in which the normal and the starving organism reacts to drugs, especially to anesthetics. The cell protoplasm is in a very unstable condition on account of the lack of nourishment, and he believes that ignorance or neglect of this fact has done great harm in cases of uncontrollable vomiting of pregnancy in which anesthetics—especially morphin—were heedlessly given. Narcotics should be used with great caution in hyperemesis patients, and avoided altogether as much as possible. It is extremely important in hyperemesis to watch the functioning of the liver and also the elimination of albumin, acetone and indican in the urine although the latter is not conclusive like the levulose test of liver functioning—functional disturbances preceding the organic, as a rule. By these means it may be possible to detect the onset of aggravation of the condition, and to avert the fulminating form of hyperemesis. The discovery of complete insufficiency on the part of the liver is the index of impending danger. The accumulation of the autochthonous toxins from the destructive process in the liver impairs in turn the kidney functioning to complete insufficiency.

96. **Cancer of the Vulva.**—Teller writes from Olshausen's clinic at Berlin to report 36 cases of carcinoma of the vulva, with the later history of the patients. Recurrence was observed in 16. He reviews this material from various standpoints, stating that it emphasizes the necessity for radical removal of all connected lymphatics and glands with the carcinoma. An operation was done for a second recurrence in 6 cases and for a third in 2.

Zeitschrift für klinische Medizin, Berlin.

LXIV, Nos. 5-6. Last indexed, Jan. 25, p. 324.

98 Peculiar General Affection Involving Principally the Musculature and Integument. R. Dietschy.
99 Changes in the Larynx in Acromegaly. (Kehlkopfveränderungen bei Akromegalie.) L. Neufeld.
100 *Nodose Periarteritis. H. Benedict.
101 *Pathogenesis of Paroxysmal Hemoglobinuria (e frigore). W. A. Choroschilow.
102 Physiology of the Metabolism of Chlorin and Its Connection with the Elimination of Water and Curve of Weight. (Physiologie des Chlorstoffwechsels.) O. Grüner.
103 Action of Preparations of Iodin and of Spermin on Adrenalin Arteriosclerosis. F. Schrank.
104 Agglutination of Colon Bacteria. E. Mayer.
105 Research on Levulosuria. W. von Moraczewski.
106 Experimental Formation of Antidiastase. A. Schütze and K. Braun.
107 Historical Sketch of Benzaldehyd Color Reaction in the Urine. (Benzaldehyd-Farbreaktion im Urin.) A. Pappenheim.
108 Importance of Molecular Concentration of Fluids for Their Absorption. (Bedeutung der molekularen Konzentration von Flüssigkeiten.) W. Zangemeister.

100. **Nodular Periarteritis.**—Benedict adds another to the twenty cases on record of this affection, and summarizes the main points in this material. The age of the patients ranged from a few months to 53 years. Fifteen of the patients were males. As a rule, the disease affects previously healthy persons, although syphilitic antecedents were known in a few instances. Rheumatic pains are sometimes the first symptoms, but severe anemia soon follows, with a dropsical tendency, and in about half the cases a tendency to jaundice. Pains and tenderness in the limbs are also evident, but the principal changes are in and around the arteries, and these give rise to a multitude of symptoms, as various organs are affected by the insufficient blood supply from the altered arteries. The affection generally proves fatal in three or four months, although cases of spontaneous relative recovery have been observed. In one case the fatal termination occurred in ten days,

in others not until after a year and a half, and the patient personally reported has been under supervision for three years. Differentiation is possible only with histologic examination of one of the nodules. There seems to be a marked tendency for the arteries to rupture, causing aneurisms and free extravasations of blood, as the blood pressure becomes abnormally high. In conclusion, he reviews the points that differentiate this affection from others resembling it in some points. Mercury and potassium iodid have given good results in some cases. In the personal case, potassium iodid was given after the patient had showed a pronounced tendency to a spontaneous cure, and it did not seem to have much to do with the continuous improvement, although Benedict adds that he would always give mercury and the iodids a trial in such cases.

101. **Pathogenesis of Paroxysmal Hemoglobinuria.**—Choroschilow has had a case of paroxysmal hemoglobinuria under observation for three years. His research has convinced him that the trouble is not due to autointoxication, nor to disturbance in the metabolism or nervous system, as some authors have surmised, but that it is rather a special affection of the red corpuscles, probably the work of some anomaly or affection of the blood-forming organs. The red corpuscles seem to be made with some defect which renders them particularly sensitive to cold, while healthy red corpuscles are comparatively resistant to the influence of cold. Marked improvement is sometimes observed, equivalent to a complete cure lasting for a long time. In this and in a second case potassium iodid proved apparently beneficial. The second patient, a man of 23, had a history of syphilis, but had never had malaria. The first patient, a man of 32, had a single, brief attack of malaria twenty years before, with a suspicion of syphilis. In both patients the attacks of hemoglobinuria followed exposure to cold; even cool summer weather was sufficient to bring them on. Vasoconstricting drugs seemed to have no power to arrest or abort an attack.

Gazzetta degli Ospedali, Milan.

December 22, 1907, XXVIII, No. 153, pp. 1603-1618.

109 *Efficacy of Amyl Nitrite in Arresting Tuberculous Hemoptysis. (Nitrito d'amile nella cura delle emotisi tubercolari.) A. Braga.
110 Koplik's Spots as Sign of Measles. (Sintomo di Koplik nel morbillo.) B. Nicola.
111 Reliability and Harmlessness of Ocular Reaction to Tuberculin. (Oftalmoreazione alla tubercolina.) G. Dameno. Id. Paronzini, in No. 156.
112 *Spinal Anesthesia. (Rachistovainizzazione.) R. Cinaglia.
113 Study of Population in Malarial Focus. (Influenza della malaria sul movimento della popolazione in Aiello e in Terrati.) F. Sollmena.

December 29, No. 156, pp. 1635-1650.

114 Diabetes Mellitus. E. de Renzi. Clinical lecture.
115 Case of Spinal Apoplexy Following Severe Chilling. F. Bambac.
116 More Rapid Course of Experimental Tuberculosis After Preceding Diplococcus Infection. G. Romanelli.

January 5, XXIX, No. 2, pp. 9-24.

117 Treatment of Tuberculosis with Maragliano's Serum. Monti.
118 Diagnosis and Treatment of Venereal Ulcers. C. Ventura.
119 Technic of Thoracentesis. (Toracentasi pneumatica.) V. Fontana.
120 Sodium Sulphate in Dysenteric Enterocolitis in Infants. A. Ciccarelli.
121 The Paralysis of Osteomalacia. G. Bassi.
122 Spontaneous Cure of a Primary Suppurating Echinococcus Cyst in Left Lung. E. Piperno.
123 Lumbar Puncture in Chronic Hydrocephalus. (Idrocefalo cronico e puntura lombare.) A. Gasparini.

109. **Amyl Nitrite in Tuberculous Hemoptysis.**—Braga has used amyl nitrite fifteen times in seven cases of hemorrhage from tuberculous lungs, and each time has been impressed with the prompt action of the drug and its efficiency in these conditions. The hemorrhage was arrested as if by magic; blood ceased to accumulate in the bronchial passages, and thus the evil effects of its decomposition were avoided. Five or six drops of amyl nitrite on a wad of cotton were inhaled, and the hemorrhage ceased at once and did not recur in the majority. The inhalations were repeated several times afterward during the day. It proved effectual, even in cases in which no other measure had given relief. He supplemented the nitrite by the slower acting action of an enema of gelatin to which calcium chlorid had been added, with fluid extract of hydrastis internally. Since this technic has been adopted no patient has succumbed to hemoptysis, and whenever it appears it is speedily controlled

112. **Spinal Anesthesia with Stovain.**—Cinaglia reviews the various mishaps that have been published in connection with spinal anesthesia, and reports two cases in which it was followed by intense headache and cramps, persisting for ten days in one case. Severe pains resembling sciatica were noted in another patient; they have persisted for several months to date with brief intermissions. Another patient had paralysis of the rectum and bladder for several months after the operation, with pains in back and abdomen and in the legs. The symptoms have gradually subsided and a complete cure is anticipated soon. He remarks in conclusion that spinal anesthesia is superior to all other technics, although it is still far from ideal; he advises its application only in the cases in which it is absolutely necessary, with correct technic and dosage, thus avoiding accumulation of statistics which throw discredit on a method which gives fine results under proper conditions and which may prove the best of all when further perfected.

Hygiea, Stockholm.

December, 1907, LXIX, No. 12, pp. 1171-1282.

124 Study of Growth of Tubercle Bacilli in the Kidneys in Tuberculous Nephritis. (Tuberkelbakterlernas växttopografi i njuren.) G. Ekehorn.
125 Mercury Snuff in Treatment of Syphilis. (Kvicksilfer vid behandling af syfilis.) C. Cronquist.
126 Study of Pulse and Blood Pressure and Appearance of Albumin in Urine After Foot Races. K. A. E. Fries.
127 Acute Morphin Poisoning in Ten-day Infant. A. Kaijser.
128 Circumcision from the Historical and Medical Standpoints. (Omskärelsen från kulturhistorisk och medicinsk synpunkt.) C. M. Fürst.
129 Physical Development and Health of Public School Children. I. Norinder.

Norsk Magazin for Lægevidenskaben, Christiania.

December, 1907. LXVIII, No. 12, pp. 1361-1480.

130 Five Unusual Cases of Cesarean Section. E. Rode.
131 *The Human Relics Found at Oseberg, Dating from the Days of the Vikings. (Osebergskibets menneskeknokler fra den yngre jarnalder.) G. A. Guldberg.
132 Scrofula. C. M. F. Sinding-Larsen.

January, LXIX, No. 1, pp. 1-220.

133 Importance of Trauma in Origin and Development of Tuberculosis. (Traumaets betydning for tuberkulosens opstaaen og udbredning.) Id.
134 Ocular Reaction to Tuberculin. (Oftalmoreaktion.) K. Thiis.
135 Clinical Importance of Infiltration in Muscle and Connective Tissue. (Muskel- og bindevævsinfiltraters kliniske betydning.) F. Grøn.

131. **The Oseberg Human Relics.**—Guldberg gives an illustrated description of the human bones found at Oseberg in 1904, dating from about the eighth century. The bones are evidently parts of two female skeletons buried with much ceremony; near them were the skeletons of about twenty horses and a number of dogs and pigs. Some of the horses had been decapitated. The human bones show pathologic processes, one a general tendency to osteoplastic growths, as shown in the hyperostosis of the frontal bone, knees and vertebræ, while the other skeleton shows asymmetry and various defects.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

DISEASES OF THE HEART. By Professor Th. v. Jürgensen, Tübingen; Professor L. Krehl, Greifswald; and Professor L. v. Schrötter, Vienna. Edited, with Additions by George Dock, M.D., Professor of Theory and Practice of Medicine and Clinical Medicine, University of Michigan, Ann Arbor. Authorized Translation from German, under the Editorial Supervision of Alfred Stengel, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Pp. 848. Cloth. Price $5.00. Philadelphia: W. B. Saunders Co., 1908.

THEORY AND PRACTICE OF HYGIENE. By J. Lane Notter. Revised and largely rewritten by R. H. Firth, Lieut.-Colonel Royal Army Medical Corps. Third Edition. Cloth. Pp. 993. Price $7.00. Philadelphia: P. Blakiston's Son & Co., 1908.

THE PYONEX: ITS THEORY AND PRACTICE. By W. B. Bull, M.R.C.S., L.R.C.P. Cloth. Pp. 572. Price, $3.00. London: John, Bale, Sons and Danielsson, Ltd., 1907.

BIENNIAL REPORT of the Board of Managers of the Springfield State Hospital of Maryland. Paper. Pp. 90. Baltimore: Sun Book and Job Printing Office, 1907.

ELEVENTH BIENNIAL REPORT of the North Carolina Board of Health. Paper. Pp. 165. Raleigh: E. M. Uzzell & Co., 1907.

REPORT OF TRUSTEES of Bellevue and Allied State Hospitals. Paper. Pp. 24. New York: Martin B. Brown Co., 1907.